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Microsoft-Novell Accord Besieged

Disputes over patent infringement, motives toward Linux confuse situation

BY P.J. CONNOLLY

November's agreement between Microsoft and Novell on indemnification and intellectual property continued to roil the open-source community as the month ended.

The two companies agreed to disagree on whether Linux infringes upon Microsoft's patent portfolio, while Ubuntu founder Mark Shuttleworth attempted to lure openSUSE developers into his stable. On the legal front, community leaders debated the significance of the agreement and prepared to tweak the forthcoming GPLv3 license with the aim of rendering impotent future agreements of the form taken by the Microsoft-Novell deal.

The story picks up in mid-

November, when Microsoft CEO Steve Ballmer used his keynote speech at the Professional Association for SQL Server summit in Seattle to assert that Linux improperly used his company's intellectual property. He did not, however, provide a single exam-

ple of actual infringement.

On Nov. 20, Novell CEO Ron Hovsepian fired back with an open letter to the community posted on Novell's Web site disagreeing with Ballmer's claims of infringement and pointing out that the patent agreement con-

tained no acknowledgment of any violations.

For some perspective, a 2004 review of the Linux kernel by Open Source Risk Management (OSRM), a risk-management services company, found that it con-

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Deal Sends GPL Back to Drawing Board

BY ALEX HANDY

Richard Stallman and the Free Software Foundation are adapting GPLv3 to address the issues created by Microsoft's November agreement with Novell. According to Stallman, the GPL's most recent publicly available revision did not adequately address software patent protec-

tions for end users, but he said that these inadequacies were not apparent until the Microsoft/Novell deal was announced. Stallman expressed delight in the timing of the deal, however, as it has given him and the FSF a chance to build new protections into the next draft of GPLv3.

In late November, Stallman

gave a speech at the Fifth International GPLv3 Conference in Tokyo, and took that opportunity to discuss the patent clauses that are currently under revision. "What has happened is, Microsoft has not given Novell a patent license, and thus, section 7 of GPL version 2 does not come into

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Portico Takes on '100-Year Archive Dilemma'

Group committed to preserving scholarly journals in electronic form

BY JEFF FEINMAN

Portico is an organization with its eye on the future. The collaboration of librarians and archivists has taken up the mission of preserving the increasing torrent of scholarly journals that are being either transferred to or written in electronic form.

As publishers continue to roll out various forms of electronic literature in a vast number of categories, Portico is trying to snatch up these documents in much the same way that Lucy Ricardo desperately grabbed for chocolate

candies on the accelerating conveyer belt in an "I Love Lucy" episode. Created in 2002 as a sister project of the not-for-profit archive organization JSTOR, Princeton, N.J.-based Portico has been saving hundreds of journals involving computer science, agriculture, medicine and politics.

The archiving of electronic journals is a fairly expensive process due to its complexity and scale of the needed infrastructure, Portico says, and individual libraries would be hard-pressed

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Staff members Nita Rana (standing) and Gladys Osofisan look over an electronic journal at Portico headquarters in Princeton, N.J.



Microsoft CEO Steve Ballmer asserts that Linux infringes upon his company's patent portfolio.

Salesforce A Force to Be Reckoned With

BY JEFF FEINMAN

Salesforce.com's record-breaking earnings made waves on the software-as-a-service front, and many financial analysts are wondering what effect the eye-popping numbers will have on the rest of the software industry. With a good possibility of other companies jumping into a similar business model, some question whether Salesforce.com can maintain its numbers.

In the quarter ending Oct. 31, 2006, sales rose 100 percent to \$1.1 billion, and net income grew 11 times to \$10 million. The company also reported a profit of 10 cents per share, compared with a loss of 1 cent per share in the year-ago period. Analysts had expected a profit of 5 cents per share.

Researchers Unlock Mystery Of Antikythera Mechanism

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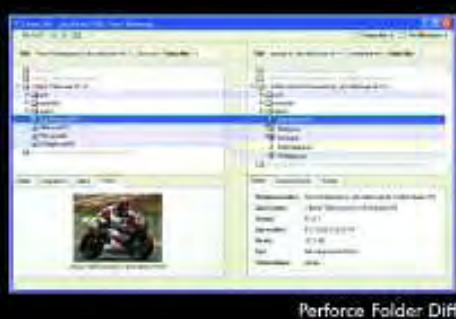


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Folder Diff is just one of the many productivity tools that come with the Perforce SCM System.

Researchers Solve Puzzle Of Antikythera Mechanism

Ancient Greek device used complex circular gears to track celestial bodies

BY ALEX HANDY

It took more than 100 years of research and some of the world's most advanced penetrating digital image scanning technologies to reveal the secrets of the world's oldest known computer. In the final days of November, an Athens, Greece-based research team announced that it had cracked the riddle of the Antikythera mechanism, and the results have astounded historians, astronomers and anthropologists alike.

Originally discovered in 1900 by sponge divers off the island of Antikythera in the Mediterranean, the mechanism itself is actually a collection of roughly 80 shattered relics. Three of those pieces were largely intact, however, but two millennia's worth of dirt, grime and detritus kept the full scope of the object concealed for many years.

The Antikythera research team in Athens, which was first convened last fall, included mathematicians, astronomers, philologists, historians and imaging experts from Hewlett-Packard and X-Tek. The latter company contributed its powerful X-ray scanning equipment, while HP's contributions to the project came in the form of high-quality surface scanning and image enhancement technologies.

Dan Gelb, senior research scientist at HP Labs, was with the HP team that went to Athens last fall to image the mechanism. HP's imaging technique uses 50 flashbulbs and a digital camera to produce high-quality images with embedded light sources that can be moved and manipulated. These images were used by researchers so that the 80-odd device remnants did not need to be touched or moved while studied.

"You can make the object look like a shiny metallic object, which can help bring out the surface indentations and hide some of the rusting," said Gelb.

This technique helped the researchers decipher the 2,000-plus Greek characters written on the device.

FAR MORE COMPLEXITY

The device's design, while initially viewed as complex, was found to be even more precise and complicated as these new scans were analyzed.

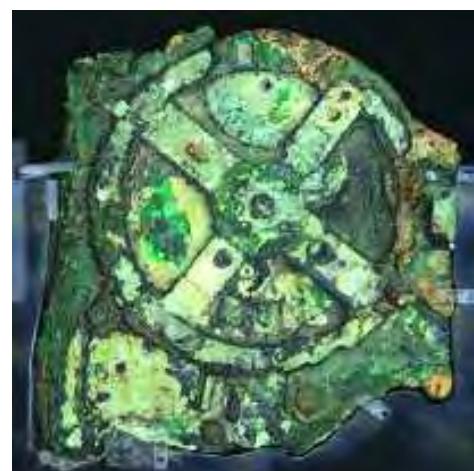
Mike Edmunds, a professor at the Cardiff School of Physics and Astronomy, in Wales, was part of the research team involved in analyzing the device, and he called it the engineering equivalent of the Mona Lisa. "This device is just extraordinary—the only thing of its kind," said Edmunds. "The design is beautiful, the astronomy is exact-

device's 30 gears showed that the Antikythera mechanism was wildly more complex than previously thought. Edmunds and others on the team remarked, during a two-day conference held in Athens to show the team's analytical results, that the device's complexity shatters any previous theories regarding the technical competence of the ancient Greeks.

"It does raise the question of, What else were they making at the time?" said Edmunds.

The Antikythera mechanism is built around circles and triangles, which were used by ancient Greek mathematicians and scientists to calculate terrestrial and celestial distances. The device's 30 bronze circles are studded with triangular teeth, and perform the functions of a differential gearing system. In addition to the intricacies of the mechanism, the device is quite small, measuring just over a foot tall, half a foot wide, and only 3.5 inches thick. The apparatus is so small, in fact, that the scale and craftsmanship of the device were not matched until the 1800s, when European clock makers began to miniaturize their craft to create pocket-sized watches.

While the research team in Athens is now certain as to the device's purpose, there is still mystery attached to its origin. The ship on which the device was found was actually Roman, but inscriptions on the device prove it was made in Greece. Current theories as to the origin center around the isle of Rhodes, a bastion of astronomer and philosopher Posidonios in approximately 80 B.C., when the device is believed to have been made. Other items salvaged from the Roman boat, such as statues and other decorative objects, suggest that the mechanism was traveling to Rome along with other booty, possibly taken from the island. ■



One of three intact pieces of the Antikythera mechanism, with its circular gear exposed.

ly right. The way the mechanics are designed just makes your jaw drop. Whoever has done this has done it extremely well."

Edmunds and the other researchers on the Antikythera team determined that the mechanism was designed to chart the movements of the sun, moon and possibly the planets as they moved through the zodiac. The device could predict eclipses, and compensated for the moon's irregular orbit, giving ancient Greek astronomers a tool that could very precisely measure and predict the positions of all the major astral bodies visible to the naked eye.

In-depth analysis of the



SD Times Photo Illustration

HP to Take Mercury Name Off Products

New 'centers' to carry corporate brand

BY ALEX HANDY

The Mercury product line, now part of Hewlett-Packard, will no longer carry the Mercury moniker. Russell Daniels, vice president and CTO of HP software, told SD Times that HP has decided that its own brand name is stronger than that of Mercury Interactive. Thus, that company's product offerings will soon be branded with only the HP logo.

But Mercury's won't be the only renamed products in the HP arsenal. Daniels also said that HP's OpenView products will likely be spread around the soon-to-be integrated HP software product lines, and will lose the OpenView tag too.

While the final details of the new branding strategy were not available at press time, Daniels said that HP intends to continue offering the Mercury product lines in "centers," such as the now renamed HP IT Governance Center and HP Quality Center. These centers will be bolstered with the requisite pieces of existing HP software as well. It was not clear as of press time which products would be placed into which centers.

Daniels said that existing Mercury products will continue to be available individually, but

that the "center" product lines will be sold with a heavy emphasis on installation and support consultation services.

According to Daniels, the HP software product lines will be doled out in packages that include training and consultation services, a move that he hoped would speed the uptake of SOA and other technologies, such as virtualization, in enterprises. He said that HP's salespeople will be concentrating on selling these products in a manner that will ensure successful deployment and process implementation instead of simply selling the tools and leaving customers to their own devices.

"If I want to buy a product license, and I don't want to buy installation services or training, you should not sell it to me. You should walk away from the deal because I'm going to fail and I'm going to blame you. It's tough to tell that to a salesperson," said Daniels, describing the new approach that will be taken by the combined HP and Mercury sales teams.

Further information on the HP/Mercury branding and product strategies is scheduled to be revealed in early December, at an HP event in Austria. ■

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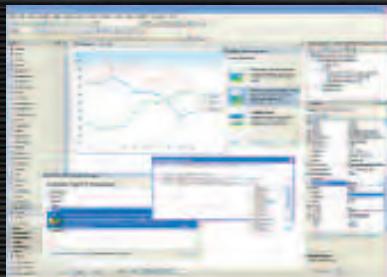
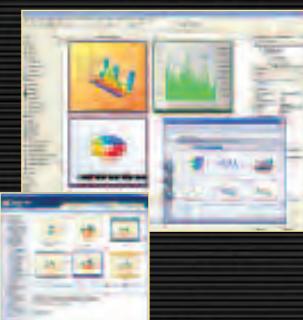


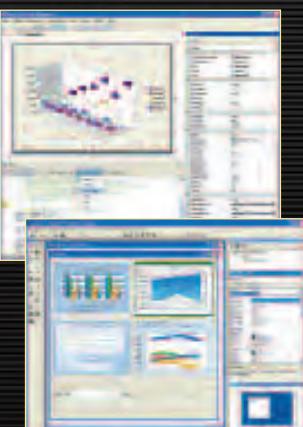
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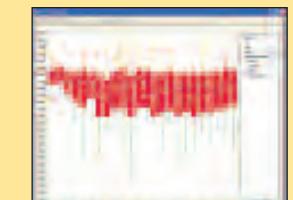


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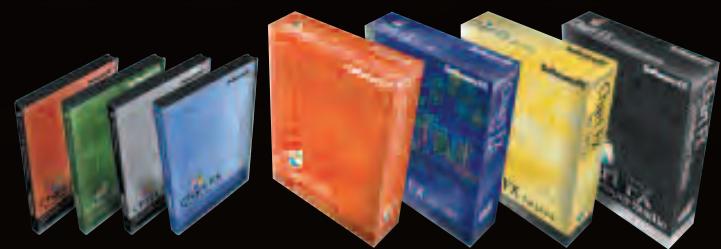
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New Looks for Old Apps

Infragistics' NetAdvantage updates look and feel of applications without touching underlying logic

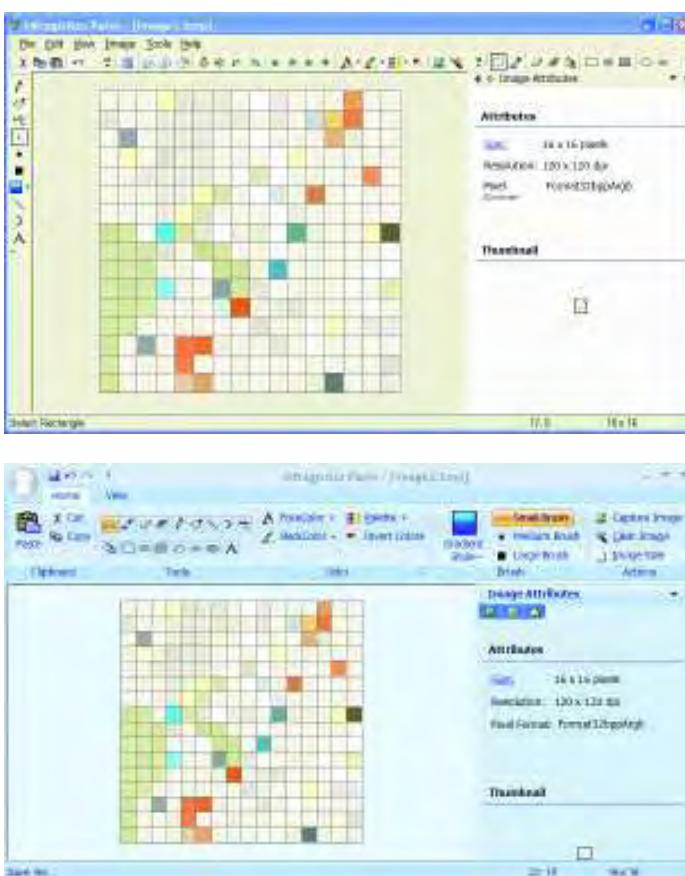
BY P.J. CONNOLLY

Sometimes, developers need to keep an application looking up to date even when there is no need to change the underlying logic, and the launch of the new Office 2007 interface just raised the bar for user interface design. Even if one assumes that it will take years before a majority of corporate desktops will be able to fully exploit the most advanced capabilities of the Windows Presentation Foundation, power users will demand slicker-looking applications sooner, if not already.

Infragistics unveiled its solution to the problem of how to quickly update the look and feel of an application last month, in the form of NetAdvantage for .NET 2006 Volume 3. NetAdvantage takes two forms—one focused on client-side Windows Forms development, and the other targeted at ASP.NET applications—and works with Microsoft Visual Studio 2002 and following releases.

Infragistics chief technical evangelist Jason Beres explained that the company saw the new UI paradigm as an opportunity for developers. "Our goal is to reduce time-to-market [and] increase ROI by taking the latest and greatest look and feel from Microsoft, and allowing .NET developers to rapidly create very rich, interactive applications in either ASP.NET using AJAX, or in Windows Forms."

NetAdvantage for Windows Forms allows developers to add features including the Office



Before and after views show that while the core of this application hasn't changed, the UI looks fresher and more accessible with new controls.

Ribbon to their applications. It also offers an "eyedropper" feature for color selection and multiple options for previewing application resources. The "Used By" list in the NetAdvantage Style Explorer picks up where the Infragistics Role Editor leaves off; developers can now define the resources used by user interface roles, in addition to the roles used by application components.

On the ASP.NET side, the

new controls work with Microsoft's AJAX implementation; the so-called Black and Blue color schemes can be easily applied to applications, and a new WebAsyncRefreshPanel allows developers to use AJAX so that end users don't have to repost data within Web forms. "What this gives you is the ability to plug AJAX into any piece of your application without changing any code," Beres noted.

Developers wishing to upgrade their ASP.NET projects to the new UI design standards can take advantage of a new Visual Studio add-in that allows manual, command-line and batched command-line execution, in addition to a GUI front end.

For both the ASP.NET and WinForms editions of NetAdvantage, the charting control was updated to allow more customization options, and chart settings that follow the look and feel of the Office 2007 applications were added. Other controls were updated as well, providing more features along with the new look. ■

SCALEOUT UPDATES CACHE

BY P.J. CONNOLY

In a highly scaled environment, the data can be so far removed from the application that performance suffers. Distributed caching provides one answer to this problem, but the tricky part is ensuring that the cache is updated consistently as new objects arrive. ScaleOut Software recently updated its StateServer distributed caching system for Windows servers, giving developers the ability to control how cached objects are expired or reclaimed, and allowing them

to designate objects that are never reclaimed, or are reclaimed only after examination.

StateServer's design aims to make implementation simple; it runs as a Windows service, and a simple change of the configuration file swaps in ScaleOut's own session-state storage providers for the built-in ASP.NET providers.

StateServer 2.1 also adds support for the x64 versions of Windows Server 2003; 32-bit and x64 instances can fully interoperate within a server farm. ■

NEWS BRIEFS

COMPANIES

Business process management software company **Intalio** has donated its BPMN process modeler to the Eclipse Foundation as part of the organization's SOA Tools Platform project. Earlier this year, Intalio released its EMF model comparator to the open-source community. The BPMN Modeler is one of three contributions made by Intalio to build the first open-source Business Process Management System (BPMS). It complements the BPEL Engine donated to the Apache Software Foundation and the Tempo BPEL4People workflow framework hosted on www.intalio.org. The three components form the foundation for Intalio's BPMS... With its recent acquisition of **Speedev Inc.** now complete, **Kovair Software** will go forward with a focus on application life-cycle management solutions that support global development and offshore outsourcing. The company has released its Global Lifecycle 4.9 integration platform for handling requirements, change, testing and release management.

NEW PRODUCTS

Ada software provider AdaCore has unveiled **GNATstack**, a software analysis tool that helps predict the biggest possible memory stack required to host an embedded application. GNATstack is a component of AdaCore's GNAT Pro HIE high-integrity Ada development environment for

building safety-critical applications. GNATstack performs per-subprogram stack usage to determine worst-case stack requirements, according to a company news release. The tool also provides an audit trail so applications can be certified under a variety of industry and regulatory protocols, and it can find and list potential problems when calculating the stack requirements... WebAssist, which makes software add-ons to the Adobe platform, has released **Dreamweaver Tools for Google**, a free extension to Adobe's Dreamweaver Web site creation software that simplifies the task of adding Google Checkout, Google Maps and Google Search to any Web site through the use of wizards. Available from the WebAssist Web site, the new tool works with Dreamweaver versions 8, MX 2004 and MX on Macintosh and Windows platforms.



UPDATES

SQL Farm Combine 1.3 arrived in November, bringing its retinue of database life-cycle management tools up to date. This version of the change and life-cycle management suite adds support for additional databases.



Instead of managing the changes in an entire codebase, SQL Farm Combine handles the many changes and code-swaps required to take care of multiple deployed databases... ComponentOne has released version 3 of **Doc-To-Help 2006**, help-authoring software with new source control features that enable multiple authors to contribute to one project on a check-in/check-out basis. The release also includes an updated NetHelp theme that gives a more modern look to any help system built with the tool, and an Adobe PDF help target for generating online and printed output... Terracotta moved its eponymous JVM clustering tools into the open-source community in early December. The **Terracotta** family of products can provide clustering support for Spring, Tomcat and BEA's

WebLogic Server applications, and will now be available free of charge on the company's Web site... Another company taking the open-source plunge is ICEsoft. That company's **ICEfaces** product became an open-source project in late November. ICEfaces is a JSF-to-JavaScript translation tool that gives Java developers an easier path toward building JSF-based AJAX applications... CA has released **Wily Introscope 7.1**, featuring DVD-R-like navigation through user-transactions replays for root-cause analysis of application problems, and advanced integration with CA's Unicenter Network and Systems Management software... **GoldenGate 9.0**, a data management platform, has been released by GoldenGate Software with new support for Microsoft SQL Server and IBM's DB2 z/OS, giving the platform the



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Google Web Toolkit Brings AJAX to Mac OS X Users

BY ALEX HANDY

Macintosh Java developers seeking a path to the AJAX promised land are now in luck. With the release of version 1.2 of the Google Web Toolkit in

late November, Mac OS X users now have access to the browser-based debugging features that make GWT a useful tool for building JavaScript applications with Java code.

Also new to this version of the GWT is a huge increase in compilation speed.

Bret Taylor, senior product manager for developer tools at Google, said that GWT has

become exceptionally popular since its release earlier this year. Because Google does not publicly discuss the number of times the tool has been downloaded, he cited the tool's 5,400-

member discussion forums as an indication of the size of the tool's user base. Taylor said the users have built some unique applications around the tool, including an open-source Web-based conference site and Instantiation's WYSIWIG GWT development tool, which was covered in SD Times last month. Taylor said that the resulting collaborations with GWT's user base have pushed Google to open its development process even more to the public eye.

RESPONSE TO FEEDBACK

"We take feedback from our developer community and act on that as quickly as possible. We are working on becoming more and more open and more and more transparent so our developers feel like they're contributing to the project," said Taylor. "We want this to become a de facto standard for developing AJAX applications."

And this is the reason that GWT 1.2 now includes debugging support for the Mac OS. The standard method for debugging GWT applications utilizes browser plug-ins that analyze the AJAX code and its shortcomings. For version 1.2, Google updated this plug-in to support Safari, and the Macintosh versions of Firefox 1.5 and 2.0. The actual toolkit itself already worked under the Mac OS, said Taylor, but the development community had long been demanding full-fledged support for the operating system.

Second on the community's list of desired features was a faster compilation process. Version 1.2 of GWT is now as much as 10 times faster when compiling Java to AJAX, said Taylor.

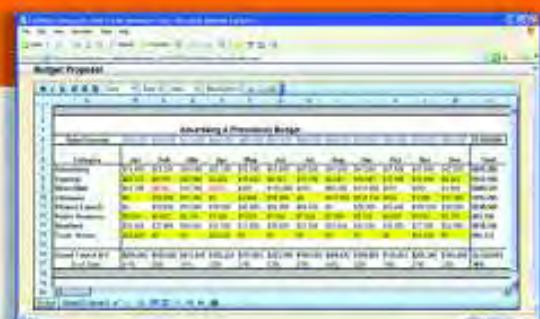
The next iteration of the toolkit should add features from Java SE 5, such as support for generics and further platform-based integrations. Taylor said that while GWT is a bit behind Java SE in terms of support for the language's newer features, he maintained that many of the newer Java bells and whistles don't have much use in the AJAX space.

GWT is available online at code.google.com/webtoolkit for free; it now works on Windows, Linux and Mac OS X. ■



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JBoss Gets on Board Enterprise Service Bus

BY ALEX HANDY

The enterprise service bus has left the terminal, and JBoss is on board. In late November, the open-source application server company now owned by Red Hat released the JBoss ESB in its first finished form. The new ESB is offered as a free open-source project, with JBoss offering service and support contracts to companies that use the ESB in their SOA environments.

The JBoss ESB has been in a publicly available beta form for the better part of 2006, said Shaun Connolly, vice president of product management at JBoss. Connolly said that the JBoss ESB wasn't originally created by JBoss, but by one of the company's clients, a large insurance company.

"A good chunk of the technology was donated by one of our customers. They had built ESB capabilities on top of their [JBoss] application server. We were able to get some nice proven technologies as part of our open-source model," said Connolly. While Connolly could not officially acknowledge that Aviva Canada was the company behind the original ESB code, JBoss' Web site makes it fairly clear that Aviva was the company in question.

In its final form, the ESB includes a service registry and a transformation engine to handle in-line transmogrification of service messages. The JBoss ESB is also able to skim information and events from a SOA stream and present this information to developers aggregating statistics. "You're able to set some sophisticated rules and say, I'm interested in these types of events, but they have to have these criteria before I'll interact with them," said Connolly. This particular ability comes thanks to the integration of the JBoss Rules project into the ESB.

APPLICATION SERVER 5 DUE

The release of JBoss ESB is a prelude to this month's beta release of JBoss Application Server 5.0. The new revision of this open-source application server will add support for the most recent WS-* standards, such as WS-Security, and will also bring Java EE 5 support into the JBoss world. That means support for annotations of Java objects, said Connolly.

JBoss and Microsoft have collaborated to make the JBoss application server work well with .NET environments. "Since the application server is being used more and more to

handle migrated workloads from some of the other commercial vendors in the application space, we've been spending time further beefing up our enterprise features," said Connolly.

That means adding better support for clustering as well, said Connolly. The new version of the JBoss application server will support what Connolly called "buddy replication." "If you're

deploying across a cluster of 20 servers, you can say that six of those servers are part of a buddy group that share state info, so you don't have to replicate across each node," said Connolly. ■

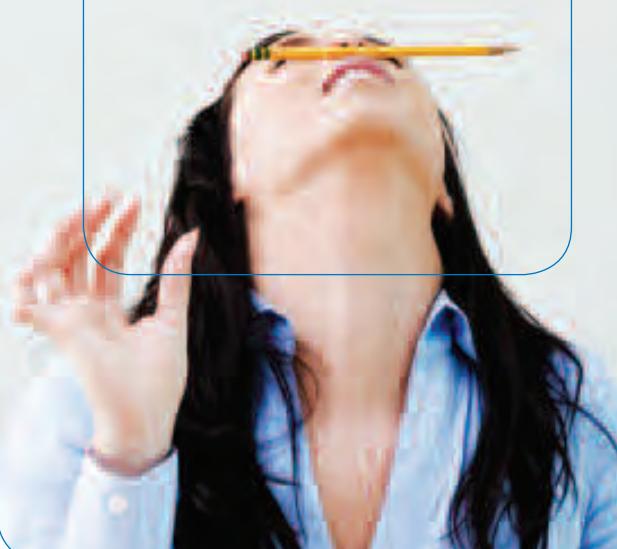
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Better Language Mastery for Modeling Tools

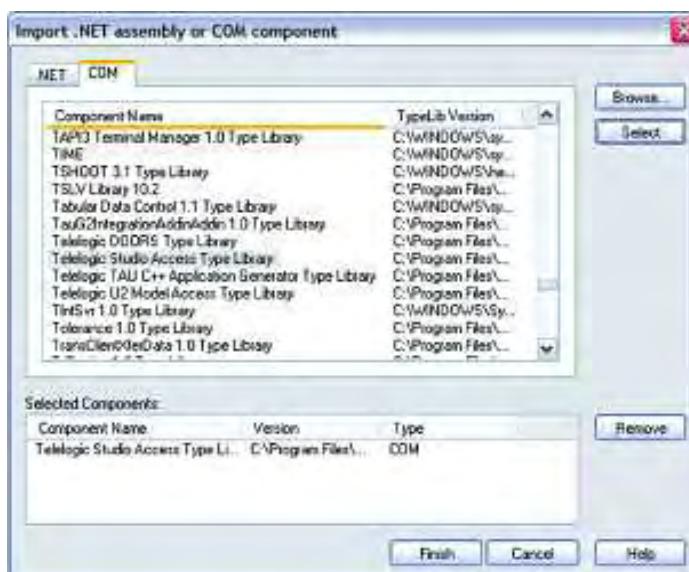
Telelogic's Tau now talks C#; MetaCase's MetaEdit Plus eases language definition

BY JENNIFER DEJONG

Two modeling tools built up their language skills last month.

Telelogic in late November announced Tau 3.0, adding C# support to the Unified Modeling Language-based tool. Also, MetaCase released version 4.5 of its domain-specific modeling offering, MetaEdit Plus, making it easier for developers to specify the language in which the tool generates code.

Tau 3.0 generates code in C#, building on earlier support for C, C++ and Java, said Telelogic's director of product marketing, Scott McKorkle. Earlier versions of Tau let development teams model components used in a service-oriented architecture. But version 3.0 extends Tau's SOA capabilities in two ways. It lets developers add tags to components in a model, specifying, for example, that a component is part of a SOA. "The right tags generate code accordingly, ensuring the model can be deployed properly," he



Telelogic Tau 3.0 can import existing .NET or COM components.

said. Tau 3.0 also allows developers to test a SOA model early in the design process to determine whether the model actually works. "You plug in the components to make sure all the capabilities are there and they will work together," said McKorkle, noting that the code Tau

generates in order to execute the SOA model does not reflect the application's final code.

Better SOA support is part of Telelogic's ongoing effort to broaden adoption of Tau beyond the aerospace and defense industry, where it has been widely used, noted McKorkle.

The process of specifying all of the aspects of a SOA is much the same as specifying the components required to design an aircraft carrier, he said, offering an example.

Also new to Tau 3.0 is the ability to query older Microsoft components from a COM registry, and pull them into a model. "Changes made at the model level are then reflected in the code," said McKorkle.

MODELING SPECIFIC DOMAINS

Unlike Tau, MetaCase's MetaEdit Plus 4.5 isn't based on UML. It's a domain-specific modeling tool, said company CEO Juha-Pekka Tolvanen. MetaEdit Plus differs from UML offerings in that it models concepts "that are specific to a narrow area," he said. For instance, instead of specifying an application in terms of classes, attributes and operations, as UML tools do, MetaEdit Plus specifies an application using concepts that are specific to that

industry. "For the insurance industry, you could model an application in terms of damages, payment, risk and bonuses," said Tolvanen, offering an example.

MetaEdit Plus can generate highly specific code in virtually any language the developer specifies, and it can keep the code and model closely aligned, he said. But to accomplish that, the developer must program MetaEdit Plus to support the chosen language. Version 4.5, which starts at about US\$200 per developer, lets developers design languages graphically, and also eases the process of building editors and debugging, Tolvanen said. "Developers do not want to spend months creating a tool, even if that tool would make them significantly more productive."

Modeling tools based on UML don't require that effort, but the code generated by such offerings is less specific, Tolvanen said. "DSM languages are more expressive and concise." ■

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Virtualization Heats Up for VMware, Microsoft, Sun

BY P.J. CONNOLLY

Virtualization is getting a great deal of attention lately, as a cost-saving tool in both the development and deployment phases. EMC's VMware announced last

month two new developments designed to make life easier for users. Meanwhile, Microsoft and Sun Microsystems made news of their own.

First, VMware launched a

certification program and marketplace for so-called "virtual appliances." As part of a virtual machine image, the appliance concept means that new applications can move seamlessly from

test environments to production use on VMware Infrastructure.

Although some vendors, such as Microsoft, have delivered all-up virtual machines on DVD, with operating systems

and applications preconfigured as a fully featured demo of an application, this program actually treats the virtual appliance as the next paradigm for systems deployment. Raghu Raghuram, vice president of platform products, observed, "Over the last year, the concept of virtual appliances has taken off like wildfire."

Already, more than 300 virtual appliances are available through VMware's Virtual Appliance Marketplace, in such areas as collaboration, e-mail security, enterprise applications, firewalls and intrusion detection/prevention systems, operating systems and traffic management.

VMware also introduced the new VMware Lab Manager, expected to be generally available this month. It is essentially a self-service portal for development and test teams, allowing them to pool network, server and other lab resources for most efficient use. Developers and operations teams can thereby eliminate the repetition of manual system setup and provisioning. Raghuram noted that the basic technology came from Akimbi Systems, acquired by VMware in June.

VMware Lab Manager captures complex multimachine configurations and allows QA engineers to reference a link to the virtual machine's state. Developers can then access the virtual system in the exact state necessary to reproduce the bug, and presumably squash it.

In the meantime, Microsoft opened up its Virtual Hard Disk Image Format, which allows users to put a virtual machine's operating system and applications into a single file without signing a license, as had previously been required. The Microsoft move follows VMware's April decision to freely license its format and specification.

Sun contributed to the hubbub by announcing that next year, it would deliver full Xen support in a Solaris 10 update, allowing concurrent Linux, Solaris and Windows guest operating systems to run on a Solaris 10 server. The new T1000/T2000, or "Cool-Threads," servers will support a new partitioning technology, Logical Domains, as a complement to Solaris "containers," also available next year. ■

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MyEclipse 5.1 Expands Capabilities for WSDL

BY ALEX HANDY

Genuitec has given MyEclipse a WSDL overhaul. With the release of version 5.1 of Genuitec's MyEclipse, users can quickly install a long list of supporting tools and features along with the latest version of the popular open-source IDE. Those extra packages now include expanded support for Oracle and SQL Server databases, as well as some new Web services extras that speed the creation of services and their clients.

New to MyEclipse 5.1 is the ability to select an existing, deployed Web service and automatically generate the WSDL needed to access it. This new capability should speed up the development time for coders working on building SOA environments, said Todd Williams, vice president of technology at Genuitec. Rather than building clients by hand, he said, MyEclipse can generate all the code needed to interpret and interact with a WSDL-described service.

Williams said that elsewhere in MyEclipse 5.1, the IDE now supports the editing and storing of procedures and functions within Oracle and SQL Server databases. This feature can be used without exiting Eclipse, said Williams, thanks to the inclusion of database access capabilities by the MyEclipse team.

Version 5.1 of MyEclipse also includes an updated edition of the Matisse GUI building tool, which the Genuitec team ported from Sun Microsystems' NetBeans. All of the add-ons installed by MyEclipse have been updated to their own latest editions as well. The MyEclipse 5.1 packager now installs Eclipse Web Tools Platform 1.5.2, and Eclipse 3.2.1. Other Eclipse tools, such as the Test and Performance Tools Platform and BIRT 2.1.1, are not included but can still be installed by hand.

NEXT UP: EXTERNAL TOOLS

For the next version of MyEclipse, Genuitec is hoping to expand its tooling outside of the IDE itself. Said Williams: "I have our tool sets installed, but I also have lightweight text editors installed. MyEclipse is a very comprehensive development environment, but sometimes

spinning up an IDE on your desktop to do something simple, like editing an HTML file, isn't needed. Next release, we'll be breaking out a lot of that functionality, but it will be available

externally as a much smaller nonintegrated application."

That, said Williams, means adding some lightweight editors for those simple markup language tasks that most develop-

ers use Notepad or Vi for now.

MyEclipse 5.1 is available now for US\$29.95 for the standard edition, and \$49.95 for the professional version. The standard edition does not include

some of the more specific tools, such as UML editing and syntax highlighting. Genuitec also offers consulting services, and plans to expand those offerings over the coming year. ■



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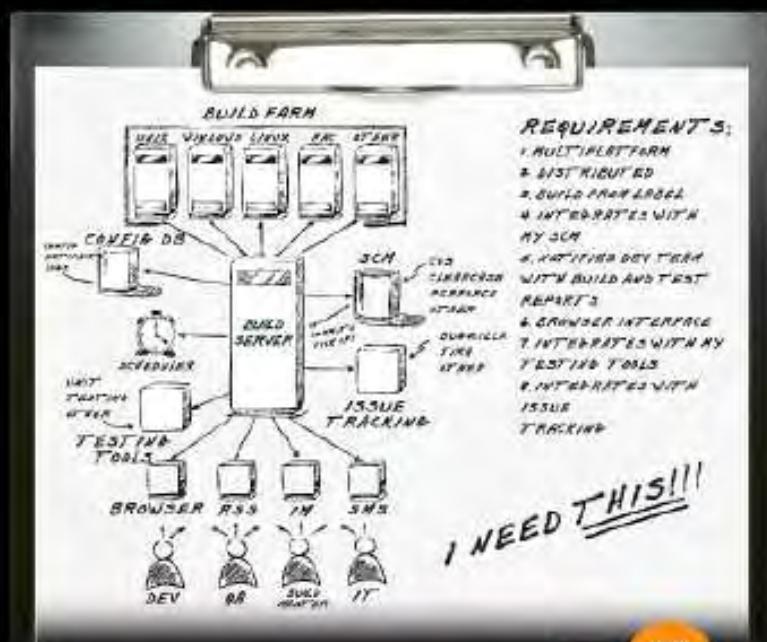
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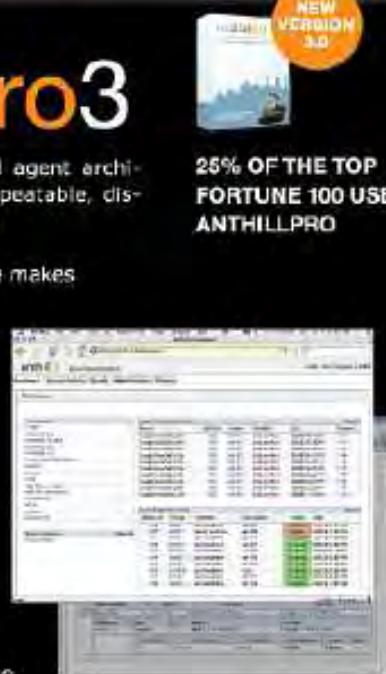
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LogicLibrary Offers Populated Registry

BY ALEX HANDY

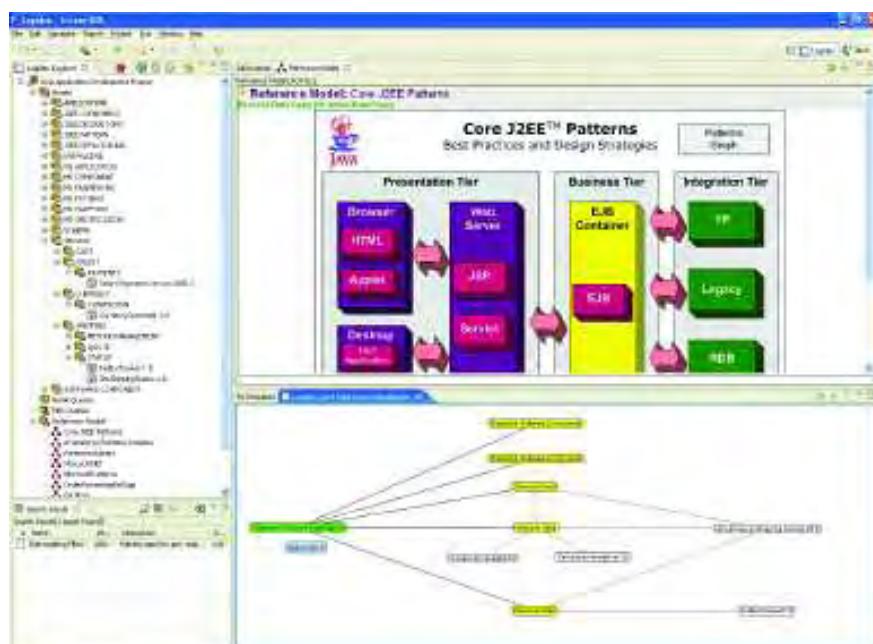
LogicLibrary is betting on prepopulation to spur uptake of its SOA solution. The company on Dec. 1 released SOA FastPath, a new product bundle centered around a prepopulated design-time registry and repository. That registry/repository, LogicLibrary's flagship Logidex product, will be filled out with code snippets and processes from both Microsoft and Sun Microsystems, as well as governance artifacts and best practices policies for managing runtimes and production development.

Alan Himler, LogicLibrary's CEO, said that SOA FastPath was born out of a trend his company noticed as the service-oriented architecture market grew. That trend, said Himler "is the desire to have a quick way to prove out the value [of SOA] and to demonstrate the value to management," he said.

That, said Himler, meant packing some of the most commonly used pieces of publicly available SOA code and processes into Logidex.

Brent Carlson, LogicLibrary's CTO and co-founder, said that SOA FastPath includes the .NET Enterprise Libraries, and Sun's Java EE patterns.

LogicLibrary is offering SOA FastPath for US\$99,000. The price includes the Logidex repository/registry products and their related client and server programs, as well as the Java and .NET artifacts. The setup is also bundled with pre-configured governance rules, and a set of metrics that will help developers show the return on investment generated by the move to a SOA infrastructure. ■



The Logidex repository works hand-in-hand with either Visual Studio, or Eclipse (shown here).

NEWS BRIEFS

MORE UPDATES

◀ continued from page 5

ability to capture transactional data from any SQL Server or DB2 database and to deliver it to most other databases ... InstallAware Software released a free update to **InstallAware 6** in mid-November with new support for Microsoft .NET Framework 3.0 ... Filling out its support for the new Office 2007 look and feel, Syncfusion has released **Essential Studio 4.4**, its components for Windows Forms and ASP.NET. All ASP.NET controls are now Atlas-enabled, allowing developers to build AJAX into their Web applications quickly. Essential Tools, one of the products in Essential Studio, provides multiple ribbon-tabs, menu buttons and other pieces to create Windows Forms applications with

Office 2007 features. Essential Grid, another tool, has real-time display, and Essential Chart has a new look and feel

... Thought's **CocoBase Pure POJO 5** supports the EJB 3 Java Persistence API for object-to-relational mapping and features a comprehensive GUI for building EJB 3 persistence.

PEOPLE

The Nokia Foundation has granted its 2006 award of €10,000 to MySQL CEO **Marten Mickos** for his "inspirational leadership" of a software company.

MICKOS The foundation, formed in 1995, this year awarded 88 scholarships valued at €450,680. ■



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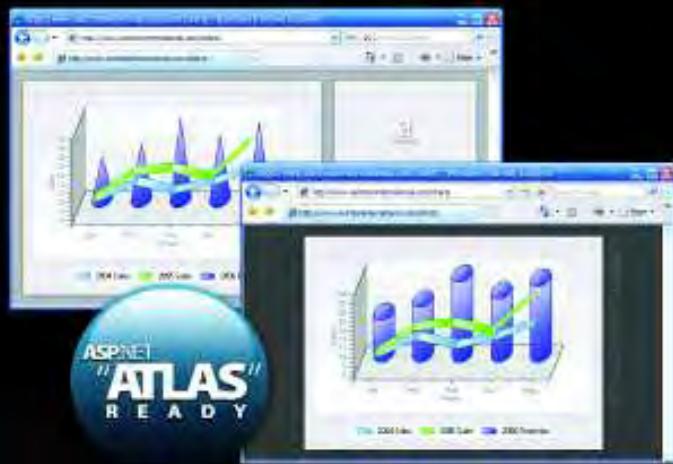
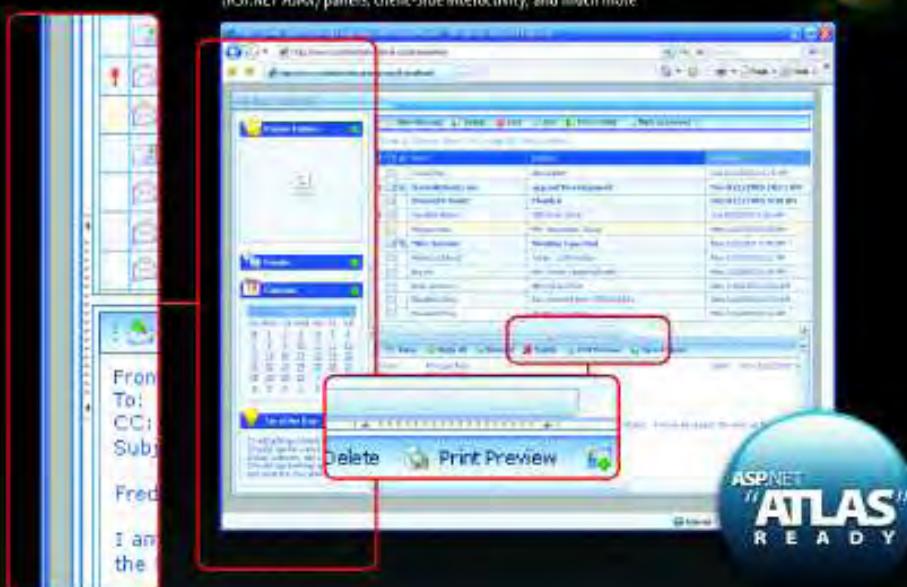
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Progress Apama Gets Failover Features

BY ALEX HANDY

The new version of Progress Software's Apama seeks to add stability to this complex event processing software with failover capabilities that can push out a clogged process and

replace it with a fresh version, unfettered by slowdowns.

Mark Palmer, vice president of event stream processing for Progress Apama, said that the new failover features of the Apama platform can

reduce downtime and the possibility of overall system failure, essential requirements for the high-speed algorithmic trading companies Apama targets. The secret to this new feature is in the event stream

processor, or corellator, as Palmer calls it.

"With 3.0 they can have these corellator instances doing their trading; then if anything happens, it'll fail over," said Palmer. That means

a jammed corellator will be jettisoned in favor of a new one loaded with the state information left over by the failed instance.

Progress Apama 3.0 also adds a new event stream interaction API. This interface gives developers a new programmatic way to create and modify process rules. Progress has also added an Eclipse-based rules development environment for business analysts who don't want to rely on IT to build their trading algorithms. ■

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DevInspect 3.0 Boosts Support For Microsoft

BY JEFF FEINMAN

SPI Dynamics announced in November that DevInspect 3.0, its hybrid software security testing tool, will provide support for Microsoft ASP.NET 2.0 AJAX Extensions. In addition, the company announced the release of DevInspect 3.0 for Microsoft Visual Studio Team System.

DevInspect takes a hybrid approach to application security, offering both source-code analysis and so-called black-box, or penetration, testing to locate vulnerabilities.

"With source code analysis products or black-box testing, there's a potential for inaccurate results from source code analysis, while black box lacks coverage," said Caleb Sima, co-founder and CTO of SPI Dynamics. "Hybrid analysis combines both and does everything in a single cooperative process."

According to the company, the integration with Visual Studio Team System's configuration management and version control system ensures that developers can share security data across a team, and that they run their code through established security check-in policies before that code can be returned to the base.

Further, DevInspect can automatically identify and fix vulnerabilities within ASP.NET AJAX applications using UpdatePanel controls, and offers analysis of the Microsoft AJAX Library and cross-browser and cross-platform script library available with the ASP.NET AJAX Extensions. ■

Deal Sends GPLv3 Back to Drawing Board

◀ continued from page 1

play. Instead, Microsoft offered a patent license that is rather limited to Novell's customers alone," said Stallman.

Since section 7 of GPLv2 (www.fsf.org/licensing/licenses/info/GPLv2.html) applies only to patent licenses given to software distributors, said Stallman, the Microsoft deal allowed it to skirt the GPL's redistribution requirements and its litigation protections.

Simon Phipps, chief open-source officer at Sun Microsystems, also feels that the deal was designed specifically to skirt the GPL. "The thing that leaves me awestruck is that Microsoft won't own the code Novell is shipping, and Novell won't own the code they're shipping, and yet they're paying each other royalties," said Phipps. "It makes me feel that this is a deeply deceptive dance to circumvent the GPL."

But Stallman and the FSF see this as an opportunity to make GPLv3 better. "Now that we have seen this possibility, we're not going to have trouble drafting the language that will block it off," said Stallman. "We're going to say not just that if you receive the patent license, but if you have arranged any sort of patent licensing that is prejudicial among the downstream recipients, that that's not allowed. That you have to make sure that the downstream recipients fully get the freedoms that they're supposed to have."

While the new version of the GPL will attempt to shield the Linux operating system and its users from potential hazards, like those raised by Microsoft and Novell, the Linux developer community hasn't yet given the license the thumbs-up. Earlier this fall, in fact, 10 Linux kernel developers published a white paper titled "The Dangers and Problems with GPLv3."

In that white paper, the developers express concerns over some of the restrictions added to GPLv3: "While we find the use of DRM by media companies in their attempts to reach into user-owned devices to control content deeply disturbing, our belief in the essential freedoms of [the GPL] forbids us from ever accepting any license which contains end-use restrictions. The existence of DRM abuse is no excuse for curtailing freedoms."

Elsewhere in the paper, the Linux kernel developers express further concerns over the complexity of changing the licensing of the Linux kernel. Their primary fear here, they wrote, was

that individual code contributors would have to approve the alteration of any license that applies to the code they contributed to the kernel—a gargantuan task.

But while the Linux com-

munity looks upon GPLv3 with a worried eye, Sun apparently has already taken a liking to the new license. Phipps was one of the primary architects of Sun's decision to release the

Java development kit under GPLv2, and he was in Europe in late November to discuss possible changes to the GPL with the European arm of the FSF. Phipps said that "when it gets published next spring, I think it will be extremely likely that Sun will look upon GPLv3 very positively." ■

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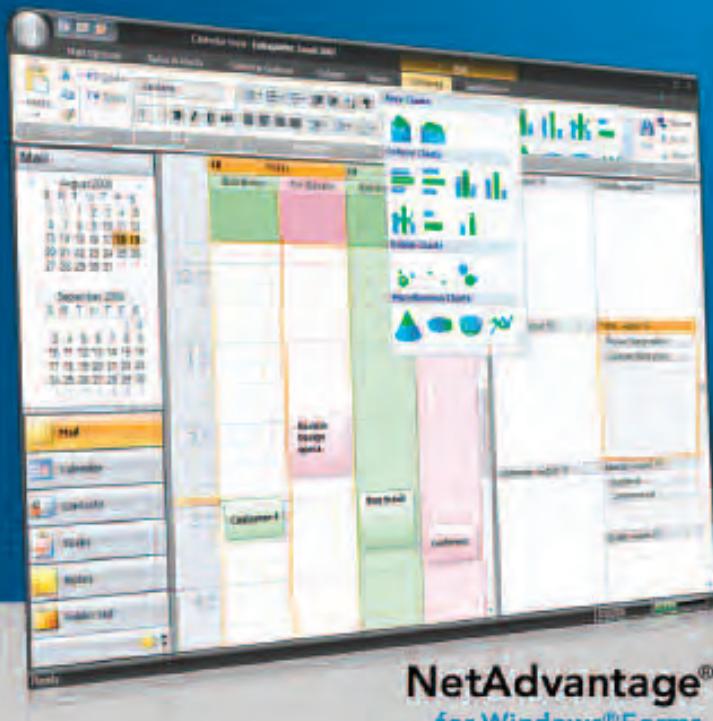
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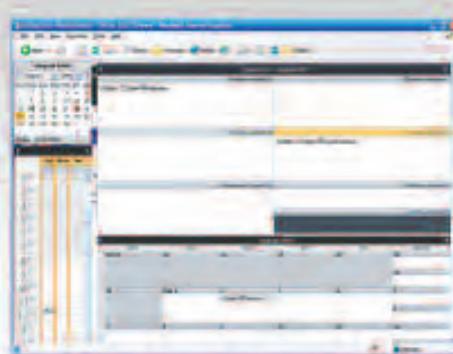
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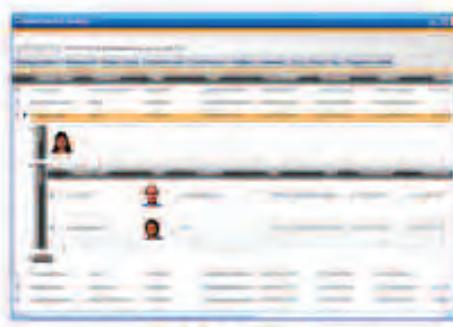
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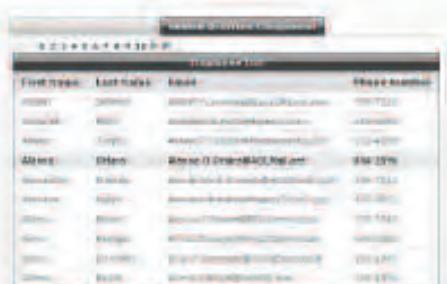
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Portico's Mission: Tackling '100-Year Archive Dilemma'

◀ continued from page 1

to come up with the necessary funds and infrastructure to archive them in a proper fashion on their own. The hope for a third-party archive like Portico is that there can be a significant number of saved documents, with each library contributing a small financial amount.

"Should the day ever come when a publisher goes out of business or the materials are no longer available from any other source, then those libraries that are choosing to support the archive will have access to the material," said Eileen Fenton, Portico's executive director.

Fenton said that even though there is a fair amount of access to electronic journals today, libraries tend to look further down the road, when certain Web sites and avenues for electronic documents may fade from existence.

Access to electronic journals is usually licensed from the publisher's server rather than purchased. Librarians are concerned about how these materials will be preserved once the servers are no longer available or the publishers go out of business.

STANDING THE TEST OF TIME

There has been some debate as to how to go about archiving electronic records for the distant future, which has been called the "100-year archive dilemma." Preserving today's systems and migrating data are methods of archiving that have been suggested, but there are many doubts surrounding those two methods regarding how efficiently they could withstand such a long period of time. According to Michael Peterson, chief strategy advocate for Storage Networking Industry Association, "The only thing that works is to plan for migration. The whole notion of either a logical or physical format lasting a long time is just not going to happen."

More specifically, certain digital archivists translate data into common plain-text formats, including Unicode or ASCII, which can support all forms of text in all languages.

Companies are adapting as well. Adobe Systems, for instance, created its PDF/A file format, which is more accustomed to long-term archiving. According to Adobe, PDF/A leaves out PDF features that are not suitable for long-term archiving, including the prevention of audio and video files, JavaScript and encryption. The idea for this type of file is that it should be fully self-contained.

'The whole notion of either a logical or physical format lasting a long time is just not going to happen.'

—Michael Peterson, chief strategy advocate, Storage Networking Industry Association

Application Server and Solaris, Portico converts the files into a standard archive form that is mandated by the National Library of Medicine (NLM). As laid out by the NLM's journal archiving format, the file will be converted from its original version into an XML format.

"If we were to say that anything coming into this archive needs to follow this or that standard, it would certainly make our lives easier, but from the publisher's perspective, what is the incentive to convert the material? Publishers are oriented toward cranking out the next volume of their publication, so their perspective is not necessarily on the long-term preservation of those objects," Fenton said.

Initial support for Portico has come from organizations including The Andrew W. Mellon Foundation, The Library of Congress, and Ithaka, a not-for-profit organization that offers services and advice to promote higher education. Hundreds of universities have participated in Portico, including Cornell, NYU, UCLA and Yale.

Don Waters, program officer for scholarly communications at the Andrew W. Mellon Foundation, said, "We gave a series of grants to seven institutions, one of which was to JSTOR to start Portico, to explore ways of archiving electronic journals. Preservation of scholarly materials is a strong part of our mission of support for higher education."

Archived materials cannot be accessed by the general public, and can be used by universities only under special conditions.

Portico is not alone in the effort to preserve electronic journals. Libraries in parts of Europe are under legal obligation to store digital materials with the expectation that they remain archived forever. ■

Peterson said that PDF/A and XML have very good potential to serve as long-term archival systems.

Whichever system proves to hold up the longest, Fenton just hopes to ensure that electronic journals are available for future generations. After working as a librarian in the Yale University Library and the Vanderbilt University Library, Fenton became the director of production at JSTOR. She worked in that capacity until the organization founded Portico in 2002.

Fenton said that Portico does not require any specific format for the files it receives and allows publishers to submit files in whatever format they are comfortable. Using systems and applications such as Documentum, the Oracle



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Microsoft-Novell Pact Under Siege

◀ continued from page 1

tained no material covered by court-validated patents. OSRM also identified 283 patents that were potentially infringing.

Meanwhile, Ubuntu founder

Mark Shuttleworth chucked a hand grenade into the room over the Thanksgiving weekend by inviting openSUSE developers to join the Ubuntu community, and accusing Novell of going "to

great lengths to circumvent the patent framework" of the GPL. The invitation, posted to the openSUSE developer's mailing list, may have backfired, as Shuttleworth's comments were seen

by posters to openSUSE's and Ubuntu's lists as an attempt to poach developers from openSUSE. Others were quick to point to Ubuntu's default installation of closed-source video dri-

vers as being equally inconsistent with the spirit, if not the letter, of the GPL.

In an e-mail interview with SD Times, Shuttleworth drew a distinction between what he called "hardware enablement" and true applications. To him, the deal is "primarily about Microsoft wanting to establish a framework for them to be paid, regardless" of which operating system is used. "We do not have any intention of supporting a software patent regime," he said.

The Microsoft-Novell deal will also affect the forthcoming GPLv3 license. At the Fifth International GPLv3 Conference in Tokyo on Nov. 21, GNU Project founder Richard Stallman admitted that "perhaps it's a good thing that Microsoft did this now, because we discovered that the text we had written for GPLv3 would not have blocked" the patent agreement whereby Microsoft indemnified Novell's customers from the threat of lawsuit. ■

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DATA DYNAMICS

GigaSpaces Adds C# Support

BY ALEX HANDY

GigaSpaces has expanded its ability to cluster high-speed data transaction applications. With version 5.2 of its eponymous transaction platform, the company says it has increased capacity for scaling out Java and .NET applications across commodity clusters. The platform requires little to no code to enable clustering of applications, and can be used with any single-thread networked application.

Yaron Benvenisti, CEO of GigaSpaces, said that his company's 6-year-old vision has finally been realized in version 5.2. "The problem space we're tackling is what [research company] Gartner would call extreme online transaction processing space. This space tries to address two significant and somewhat contradictory requirements for people building data-intensive systems—one is high-transaction volume requirement; the second challenge is low-latency," he said.

New to version 5.2 is C# support, allowing developers to cluster .NET applications in the same manner they would previously have applied GigaSpaces to Java applications. The new version also expands clustering capabilities to allow for larger grids. ■

Salesforce Earnings Prove SaaS Model Catching On

◀ continued from page 1

31, the SaaS company announced revenue of US\$130 million, up 57 percent year-over-year. That result puts Salesforce.com on track to possibly dance above a \$500 million total in annual revenue for the first time ever.

The company also reported that the number of net paying subscribers rose by approximately 61,000, bringing the total at the end of the quarter to 556,000. Operating cash flow during the quarter was at \$30.6 million, the report announced.

"We had a spectacular quarter," boasted Marc Benioff, chairman and CEO of Salesforce.com. "We have demonstrated the scalability of the on-demand model to the world's largest subscribers."

Tim Boyd, a financial analyst who covers Salesforce.com for Caris & Company, said that he expects many companies will take on Web-based services in the near future. "Traditional software companies like Microsoft and Oracle are most threatened by Salesforce.com's business model," he said. "It's just so cost-effective to deliver software services over the Web for their customers, and it's very expensive to install in-house a CRM solution. As a result, the traditional software powerhouses really haven't had a lot of success with their CRM offerings."

THE FUTURE IS ON-DEMAND

"The real threat to Salesforce.com's competitors," Boyd continued, "is that they recognize that on-demand Web-based software is the future, so they have to get a piece of that business. At the same time, if they're too aggressive trying to release their offering, they run the risk of cannibalizing their current business."

Another financial analyst said that Salesforce.com may be hard-pressed to continue such high earnings because larger companies may begin to offer similar CRM features.

"Salesforce.com has identified a niche, but its recent success is likely to see the larger players offering suitable 'lite' versions of their solutions in a similar manner," said Brett King, vice president of the American Academy of Financial Management, an organiza-

tion that offers training services for financial analysts. "So, if anything, Salesforce.com will have more competition in the future. The trick is if the company can diversify from their current position

into other offerings that are as successful as their current platform."

King said that larger competitors, such as Siebel and PeopleSoft, had underestimated the value for a "midtier

SFA/CRM solution."

Salesforce.com does not intend to slow down, as the company projects that revenue between \$140 million and \$142 million for the fiscal fourth quarter will continue to set the

standard for the software-as-a-service industry. Projections from the company state that fiscal 2007 will see earnings of around \$493 million, while fiscal 2008 will bring in a whopping \$700 million. ■

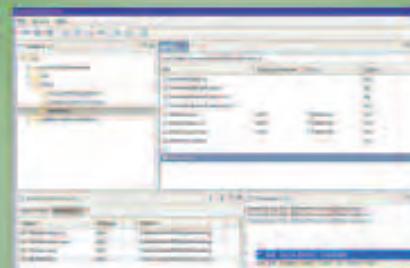
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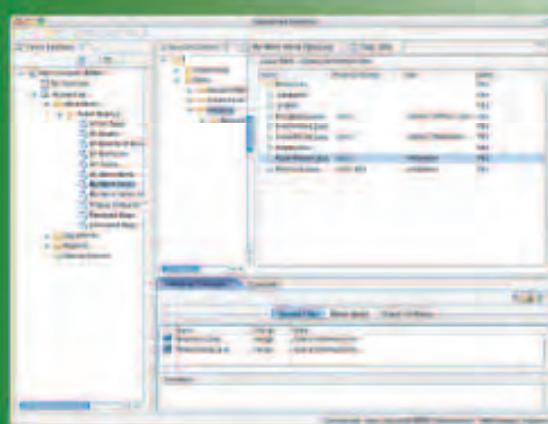
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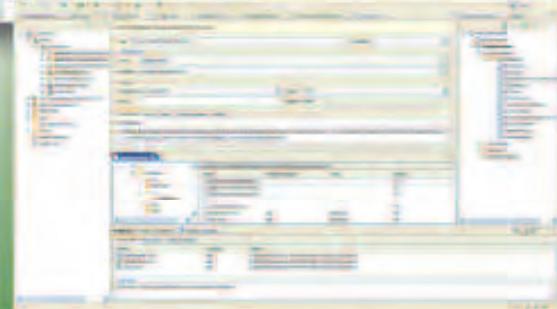
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Redefining Radios With CORBA

New ORBexpress for FPGAs allows partial reconfiguration

BY P.J. CONNOLLY

Objective Interface Systems announced a new version of its ORBexpress real-time CORBA middleware for field-programmable gate arrays (FPGAs), designed for devices that must be rapidly adapted to changing requirements, with software-defined radios being perhaps the foremost example.

Objective claims that ORBexpress FPGA allows performance increases of up to a hundredfold compared with software running on a general-purpose processor (GPP); the small-footprint CORBA object request broker (ORB) is implemented in Xilinx's Virtex FPGA line. Joe Jacob, senior vice president of Objective, noted that ORBexpress is "designed from the ground up to be a full CORBA product...we max out at 300KB, total size of the ORB. We measure our latency in microseconds."

Partial reconfiguration of such devices is becoming increasingly important as the demand for responsiveness

from emergency personnel and other service providers expands; the basic idea is that a predefined section of an FPGA is reconfigured while the rest of the system is kept running.

This is done thanks to a pair of related concepts: location transparency and processing mobility. In essence, location transparency makes it possible to move logic among different processor technologies, while processing mobility takes

advantage of location transparency to allow the logic to move from one processor to another. "You can move all elements of your radio around...to optimize total throughput of the system," noted Jacob.

One advantage that Objective claims for ORBexpress FPGA is that designers need no prior familiarity with CORBA to put it to work in a software-defined radio using the Software Communications Archi-

ture, a key element in the Joint Tactical Radio System of the U.S. military.

Jacob explained the benefit to the new military radio system of a CORBA-based system: "Rather than do all of the waveform processing in hardware, it's done in software. You can download new waveforms to the radios, different frequencies," making the radio more flexible. "Those waveforms will have security properties in them,

safety properties in them," allowing quicker response to developing situations, he noted.

Although ORBexpress does not require a GPP core on the FPGA, it allows seamless integration when a GPP core is implemented on a FPGA. It also supports the complete range of ideal data types in Interface Definition Language.

Software-defined radios are just beginning to trickle into the consumer marketplace, noted Jacob. It's not just about software, either: "Trying to find an antenna that deals with all of these different waveforms is a challenge." ■

Sony Ericsson Gets Web Services

BY P.J. CONNOLLY

Sony Ericsson Mobile Communications announced last month the release of a Web services development kit for the UIQ 3 software platform, enabling C++ and Java-based development for the latest generation of the company's phones.

Mikael Nerde, Sony Ericsson's head of developer program and content planning, noted in a prepared statement

that until now, there was "no easy way" to implement Web services on UIQ 3 devices such as the company's M600 messaging phone, P990 smartphone and W950 Walkman phone. All three devices support Java ME's Connected Limited Device Configuration; the first two also support the more advanced Connected Device Configuration.

The kit includes a new API

based on the open-source gSOAP toolkit and code samples available through the Sony Ericsson Developer World community site. A tutorial walks developers through the steps of making a gSOAP Symbian OS application compatible with the UIQ 3 platform.

In related news, Sony Ericsson announced earlier in the month an agreement-in-principle to acquire Symbian's UIQ

Technology subsidiary. UIQ Technology will operate under the current management team as a subsidiary of Sony Ericsson, while UIQ on Symbian OS will continue to be available to mobile phone vendors.

Sony Ericsson expects to complete the UIQ Technology transition in the first half of 2007. The joint venture between Ericsson and Sony recently celebrated its fifth anniversary, with headquarters in London and R&D sites in America, China, Europe and Japan. ■

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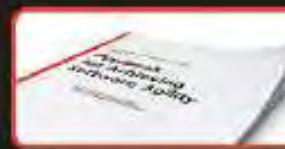


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Abdullah	Hintz	Abdullah.B.Hintz@Pipe4U.com	450-8666
Aileen	Torphy	Aileen.T.Torphy@Foobarworld.com	071-4280
Alanna	O'Hara	Alanna.O.OHara@AOLMail.net	804-2096
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Making the Move To Multicore

BY LISA L. MORGAN

There was a time when clock speed and the number of transistors defined the next levels of microprocessor performance. Chip vendors are still increasing the number of transistors on a single chip, but they are no longer trying to double clock speeds every two years because thermal dissipation and power consumption have gotten out of hand.

"Data centers are using too much power, and at the same time servers are underutilized," said Margaret Lewis, director of commercial solutions at AMD. "In Manhattan it either costs millions to bring more power in or there is no space to expand. Power, space and cooling are big issues."

Intel had been increasing the clock speed of its single core (aka unicore) chips by 40 percent per year every two years until the power consumption reached about 100 watts, said Geoff Lowney, fellow in the digital enterprise group and director of compiler and architecture advanced development at Intel. About two years ago, the company decided that the best way to increase power was not to continue to increase frequency but instead to continue to increase the number of transistors on a single chip, utilizing a multicore architecture.

"We could still make unicores run faster, but it wouldn't be as efficient," said Lowney. "A 2x increase in speed does not yield a 2x gain in performance; however, if you add four times the transistors using two cores, you get 4x performance."

Approximately 70 percent of all Intel microprocessors shipped by the end of the year will be dual-core or quad-core. Lewis said 70 percent of AMD's microprocessors shipped by year's end will be dual-core with a whopping 90 percent shipping for use in servers, desktops and workstations. AMD will unveil what it calls a "true" quad-core in mid-2007 that will feature four cores on a single piece of silicon. By contrast, Intel's newly announced quad-core combines two dual-cores in a single package.

Multicore processors operate at lower frequencies than their unicore counterparts and therefore consume less power and dissipate less heat. The thermal dissipation and power consumption benefits are attractive to designers of both embedded and enterprise systems alike.

"The scales [of clock speed versus



power consumption] are not linear," said Michael Christofferson, director of product management at Enea. "When you increase clock speed, power consumption and the related costs go up significantly. Multicore doubles processing power with minor increases to power consumption."

Aside from the "obvious" physical limitations, David Kleidermacher, CTO of Green Hills Software, said the functionality of devices is evolving in such a way that single-core designs are no longer a match.

Of course, the concept of using multiple processors is not a new one. Designers have been placing multiple processors on a single board for some time. The advantage of moving the processors or cores to a single-chip design is increased speed. As an example, the cores on an Intel Core 2 Duo communicate in a matter of nanoseconds. By contrast, multiple processors on a single board communicate in hundreds of nanoseconds, said Lowney.

Other benefits include parallelism, as well as a reduction in hardware, cooling and other power-related costs.

"Systems are getting smaller, while applications are becoming larger and more feature-rich," said Kerry Johnson, a product manager at QNX Software Sys-

tems. "You need to be able to use multiple processors in a smaller footprint."

MULTICORE BASICS

Multicore processors are being incorporated into servers, workstations, desktops, laptops, telecommunications infrastructure, handheld devices and gaming systems, to name a few.

In a dual-core microprocessor, there are two separate cores, each of which has its own Level 1 (L1) and Level 2 (L2) cache. L1 cache is dedicated to its respective core and is responsible for executing instructions and serving as a data cache for the most recently used data. L2 cache is shared between the two cores and either core can read or write to L2 cache, according to Intel's Lowney. He also said the two cores can talk to each other through L2 cache without going off the die.

The two cores share a single system bus that connects to system memory.

Each core can run a separate operating system or be dedicated to specific tasks, which enables Linux and Windows operating systems and applications to run simultaneously on a single chip, for example. This is called Asymmetric Multiprocessing, or AMP.

Alternatively, one copy of an operating system can control all tasks per-

formed on both cores, dynamically allocating tasks or threads to the underutilized core to achieve maximum system utilization. This is called Symmetric Multiprocessing, or SMP.

Most RTOS vendors support both; some, such as QNX, support a third mode called "Bound Multiprocessing," or BMP (also known as "Core Affinity"), which combines the best features of SMP and AMP.

SYMMETRIC MULTIPROCESSING

The main benefit of symmetric multiprocessing is increased processing power over uncore processors. One core is responsible for overseeing all cores on the chip so the operating system is aware of what every CPU is doing. In SMP mode, the operating system automatically handles the complexity of load balancing and communication among cores, whereas AMP requires developers to handle the communication manually.

Debugging is also a consideration. One school of thought is that SMP mode eases the debugging process because the operating system is aware of everything occurring on the chip. Another view is that AMP is easier to debug because an operating system and its applications are tied to a specific core. However, in AMP mode, debugging occurs independently,



so it may be difficult to figure out the interaction between the cores.

Instead of performing all tasks on a unicore, which has practical clock speed limitations, a multicore processor can deliver higher processing power by allowing tasks or threads to run in parallel.

"SMP was designed so you can mimic

single-processor designs in a distributed computing environment," said Enea's Christofferson. "The major issue is concurrency. In a single operating environment, running multiple threads is a priority, so two threads with different priority levels can end up executing in parallel when they are distributed to different cores."

This can create state issues. He also said that in many designs there are components within an operating system that may have hidden requirements that may not be running at the same time as another thread. To avoid the problem, Christofferson recommended that designers consider all the operating system or application threads to make sure there are no problems with concurrency.

At the RTOS level, the operating system needs to be able to support load balancing so processors or threads can be distributed to the underutilized cores. Load balancing is a big issue because how well the load balancing is executed determines how much bandwidth is available.

In a complex system, it may not make sense for every thread to be subjected to dynamic swapping, which is why it's important to use the right debugging tools and system management software for fault handling, said Christofferson.

According to Green Hills' Kleidermacher, SMP is the preferred choice for small-scale embedded systems that need a performance boost. Conversely, he said larger state systems, such as workstation clusters, are better suited to AMP.

Wind River Systems CTO Tomas Evensen thinks the reverse is true. He said SMP is ideal for the enterprise space because one operating system controls all cores. It allows you to add more threads or tasks to an application design because if too many threads are trying to execute simultaneously, they are simply moved to a free processor. The downside of SMP is that it's hard to scale because the synchronization and communication

among cores increase overhead. He predicts more AMP systems will show up in the embedded space because AMP dedicates cores to operating systems, applications and tasks.

"AMP is better for dedicated tasks," he said. "You can use Linux and VxWorks simultaneously."

ASYMMETRIC MULTIPROCESSING

AMP treats each core as a separate entity. It requires the operating system to consider which cores will have access to which peripherals and how the two cores will communicate to ensure that resources are allocated properly. At present, the IP protocol is generally used for intercore communication. The messaging between the cores increases system overhead and thus lowers net processing power.

"The problem with running two copies of two OSes is that there is no good standard for communicating between processors and OSes," said Evensen. "IP is slow, which is why we're pushing TIPC, an open-source project."

Enea is pushing another IPC (inter-process communication) technology called Links that allows CPUs to communicate with each other and the outside world using other external devices. This is important, said Enea's Christofferson, because many of his customers are combining Linux and OSE, dedicating one operating system to each core. OSE is used to control the device, while Linux is used because of the universal application its supports.

"It's like the separation of control plane and data plane," said Christofferson.

The main benefit of AMP is that operating systems, tasks and peripheral usage can be dedicated to a single core as necessary, which some say eases the transition from unicore designs to multicore designs, at least from a debugging perspective.

"There is a trick to figuring out how

to accomplish device sharing between or among cores if you want to share a common device like an Ethernet device," said Christofferson. "You need a driver, device handler or some other way to manage access."

BOUND MULTIPROCESSING

Bound multiprocessing enables the use of a single operating system among all cores and at the same time enables tasks or resources to be dedicated to particular cores. The benefit of binding threads to a single core is that it improves performance by lowering overhead. The downside is that if a task has been committed to one core, it cannot take advantage of the other core's processing power.

Christofferson said Enea's customers want to know which mode (SMP, AMP or BMP) will give them double the performance. The actual performance depends on the implementation of the RTOS—whether it is implemented in a way that enables threads to be load-balanced quickly.

Green Hills adopted BMP to allow customers to dynamically switch modes so the designer can understand whether a problem is a multicore problem.

According to QNX's Johnson, "Legacy code and the investments in it need to be preserved when adding new features. At the same time, you want new applications to take advantage of multicore processors. BMP allows you to select and fix the problem for multicore."

His colleague Robert Craig, a QNX software manager, said if BMP is chosen at the application level, the mode can be switched without rebooting. By contrast, a designer must choose between AMP and SMP at the beginning and then can't switch later.

"We wanted to give customers a choice so they can migrate at their own pace," said Craig.

Creating multithreaded code is diffi-

continued on page 24 ▶

Design Difficulty: From Unicore To Dual-Core to Quad-Core and Beyond

BY LISA L. MORGAN

Which is more difficult: Moving from unicore to dual-core or from dual-core to quad-core and beyond?

Michael Christofferson, director of product management at Enea, said the move from unicore is a larger step because Enea has had to take several RTOS components and make them Symmetric Multiprocessing-aware.

"Once you've gone to multicore, you've solved the logical problem," he said. "If you solve concurrency and load balancing, the move from unicores to dual cores is minimal from an RTOS perspective and no issue from an application perspective."

Geoff Lowney, fellow in the digital

enterprise group and director of compiler and architecture advanced development at Intel, also thinks the move to dual cores is more difficult because designers have to consider parallel processing as opposed to serial processing from a conceptual point of view.

"Once you have developed a parallel program, it will scale easily," he said.

Robert Craig, a software manager at QNX Software Systems, said the move to dual cores and beyond is more difficult because scaling becomes an issue.

"If you're using two different operating systems, the applications and binaries differ so scaling becomes difficult," he said. "If you use the same OS, you have the same binaries but it's difficult

to scale because the OSes are running independently but don't know what the other cores are doing."

If you stop one core and start another, state problems occur.

"There's a large codebase that may be difficult to debug and rearchitect to get legacy applications up and running," said Craig. "People who are happy with uniprocessors are scared by a concurrent model. They need to learn about parallelism."

The robustness of an implementation can also be affected by the applied algorithm such as expected time of execution, memory consumption, core CPU utilization and the availability of each core to new applications, and thread

processing (which consume more bandwidth in a multicore environment).

From a software perspective, core utilization needs to be monitored, but designers also have to understand where the loads are.

"We really only have software measures for [monitoring cores and], it doesn't scale linearly," said Enea's Christofferson. "It will take more than 8 times the code execution to go from two to 16 cores because there's a lot involved."

Eventually it is possible to reach a break-even point where the amount of analysis consumes so much bandwidth that it's difficult to get more performance out of additional cores, he said. One solution is to have hardware-assisted algorithms, he suggested—cores that have built-in features that understand core utilization so decisions can scale to the number of cores while consuming minimal overhead. ■

Making the Move To Multicore Architecture

◀ continued from page 23

cult for developers who are used to developing applications in a serial fashion that will run on uncore multiprocessors, said AMD's Lewis. On the other hand, multithreaded programs that have been designed with parallelism in mind are the easiest to move to multicore, she said. When looking at a GUI, graphics or a physical engine, a developer should look at the code and consider what could be run simultaneously.

"There's a certain amount of automatic parallelism in today's compilers," she said. "There is a move among chip and application vendors to increase the amount of automatic parallelism even more."

Figuring out how to allocate tasks is one of the biggest design issues, said Wind River's Evensen. "If you have a serial application, you need to figure out how to use multiple threads."

One way to attack the problem is to dedicate different cores to different tasks. For example, in an MPEG4 video stream application, a developer could have several serial processes such as data stream capture, placement into memory, decryption and resolution scaling where

the cores are used to create a pipeline.

Alternatively, if an application executes a number of independent tasks and one packet does not depend on the other, they can be split up and executed as parallel streams.

Green Hills' Kleidermacher said that debugging can also be a problem because the traditional methods just don't work, particularly in SMP mode. Synchronization problems don't tend to show up during the testing or deployment phases.

"You may get fantastic visibility into both cores, but you may not be able to tell what they're doing together," he said. "Another problem is the weird state issues that arise when one core stops and the other runs."

In the end, Evensen said there's no one silver bullet—the selection of a mode just depends on the application.

"Use SMP if you need to predict which processors are running. Alternatively, if you want to set affinity, dedicating a task to a specific processor, then choose BMP but realize the more tasks you dedicate, the less load balancing will occur," he said. "If you're dedicating too many tasks, choose AMP." ■

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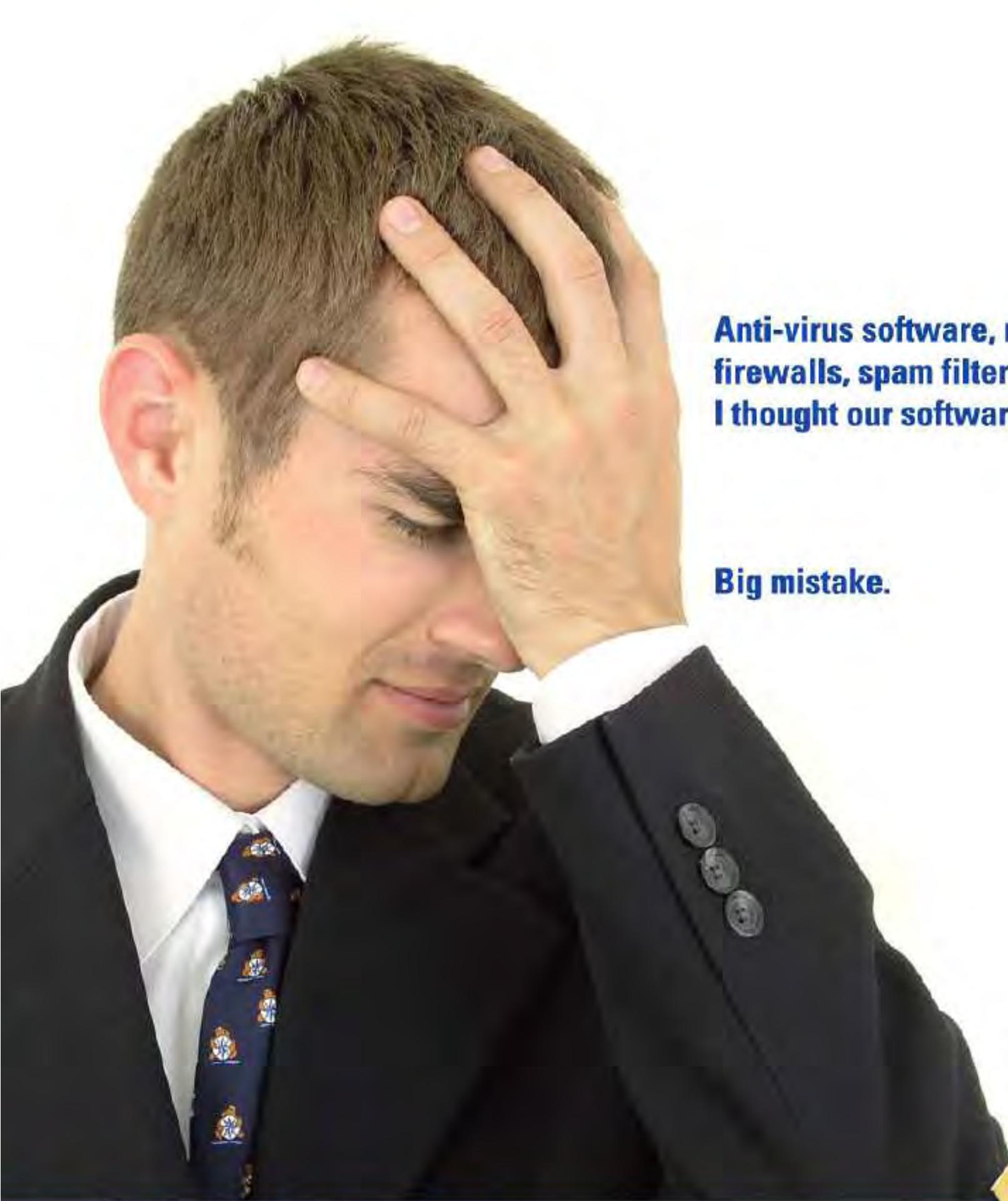
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FROM THE EDITORS

Microsoft's Divisive Strategy

Divide and conquer. It worked for Julius Caesar, it's worked for Microsoft in the past, and if that was the company's intention when it signed a patent exchange and co-marketing agreement with Novell in early November, the first phase appears to be a success.

On the surface, the agreement seems innocuous. The companies agreed to swap some patents, cooperate on technology development for interoperability and engage in limited cooperative marketing. This happens all the time in business, and if we weren't familiar with how sensitive commercial issues are to the open-source community, we'd be taken aback by the vehement objections to the deal raised by Moglen, Perens, Stallman, et al.

But the love fest between the two companies is rapidly souring. Microsoft CEO Steve Ballmer remains convinced that Linux infringes upon his company's intellectual property, which makes this whole affair a sort of "Son of SCO."

SCO still claims that its intellectual property has become part of Linux, but after years of litigation, the company has been unable to make any charges stick. We have to agree with those who have challenged Microsoft to name a single infringing use—until we get specifics, the company appears to be indulging its longtime habit of "if you can't beat them, FUD them."

Red Hat, to its credit, has kept its corporate mouth shut after the initial "No, thank you." Although it's clear that JBoss division honcho Marc Fleury doesn't think much of the agreement, at least the company's public statements haven't made matters any worse. Ubuntu wishes it could say the same thing, as Mark Shuttleworth's invitation to Ubuntu's Open Week was quickly cast as an attempt to lure developers away from the openSUSE project. It's clear from the Ubuntu mailing lists that the maximal leader may have annoyed his own followers, if only on the grounds of unseemly behavior.

Meanwhile, the GPLv3 crew is scrambling to plug this leak and any other patent-related issues in the current draft. To paraphrase a remark made by Shuttleworth to us in an e-mail interview, it would be a pity if this short-term crisis shaped the GPL to the long-term detriment of the community.

Our suggestion to all parties is simple: Chill out. It remains to be seen if this agreement leads to anything beyond some checks being cashed; and as Richard Stallman pointed out in Tokyo, it's "perhaps a good thing that this happened now" when GPLv3 could still be revised.

That said, based on Microsoft's past performance vis-à-vis open-source technologies, we believe that's going to be a pretty tough steak to chew.

A Fast Finish for Mercury

Before the acquisition closed, HP repeatedly stated that it would not hurt the Mercury brand. Lo and behold, only one month after the acquisition closed, HP has decided to kill the Mercury brand name.

Of course, titles are largely symbolic, and the name of a given piece of software doesn't really matter, provided the software works well and is easy to use. But does this decision portend an initial bias toward the HP side of the fence? And what does this mean to Mercury's customers, who are anxiously watching these moves, trying to decide if they should remain loyal or if they should shop around for new testing and performance-management tools. Certainly, there are a lot of other choices available.

Marketers made these kinds of decisions, not programmers. After all, it's not the marketers that have to redesign the two dozen or so Mercury products that now require new splash screens and information dialog boxes. But while the HP marketers were thinking about promoting their corporate identity, did any of them realize that their goal is retention of Mercury's already-skittish customers?

While HP's decision to destroy the Mercury brand name doesn't necessarily mean anything for the quality of the software itself, it's certainly not the way to reassure your customers that the Mercury seal of quality is still intact. Wait...make that the HP seal of quality. ■

Secure From the Ground Up

Quick. Which of these events really happened?

- a) Computer worm crashes safety system in Ohio nuclear plant.
- b) Virus halts train service in 23 states.
- c) Young recluse cracks computers that control California dams.
- d) Hacker uses laptop to release 260,000 gallons of raw sewage.

The answer, sad to say, is all of the above. These attacks, and thousands like them, demonstrate that building a secure perimeter around our computer systems is no longer enough. Firewalls, intrusion detection software and anti-virus programs are all important, but no matter how robust a perimeter they may create, malicious hackers can and will break through. What we really need is a new approach to designing the systems we want to protect, an approach that can make those systems inherently tamper-resistant and capable of surviving assaults. Otherwise, we are simply erecting concrete barriers around a house of cards.

The need for such an approach has been made all the more urgent by a major shift in cybercrime. Yesterday, hackers cracked systems for thrills and notoriety; today, they do it for profit. It's become a full-time job, staffed by dedicated professionals. If a hacker stands to make money by accessing your data—or by threatening to launch a denial-of-service attack on your system if you don't pay an extortion fee—then you're a target.

Worse, these professionals are targeting not only corporate IT servers, but also control and supervisory systems—systems that keep factories running, power flowing and trains from derailing. An attack on a corporate server might be costly, but an attack on a life-critical embedded control system can be catastrophic. Consequently, cyber-extortionists consider such systems a prime target.

Truth be told, the principles of creating a design that is inherently survivable and tamper-resistant aren't all that new. In fact, many of them were established as far back as the 1970s, when researchers such as Saltzer & Schroeder published seminal papers on the topic. The surprise is how much—and how long—the software industry has ignored them. This omission goes a long way toward explaining why our servers and desktops are so vulnerable to malicious exploits. It also explains why many embedded systems are equally at risk.

Consider the key principle of least privilege, which states that a software component should have only the privileges it needs to perform a given task, and nothing more. If a component needs to, say, read data but has no need to modify that data, then it shouldn't be

granted write privileges, either explicitly or implicitly. Otherwise, that component could serve as a leverage point for a malicious exploit or a software bug.

As it turns out, many operating systems today are in serious violation of this principle. For instance, in a monolithic kernel such as Windows or Linux, device drivers, file systems and protocol stacks

all run in the kernel's memory address space, at the highest privilege level. Each of these services can, in effect, do anything it wants. Consequently, a single programming error or piece of malicious code in any of these components can compromise the reliability and security of the entire system. Imagine a building where a crack in a single brick can bring down the entire structure, and you've got the idea.

As such vulnerabilities demonstrate, security cannot be achieved with an add-on layer. It must be engineered from the ground up. Start with a software architecture that embraces the fundamental, well-established principles of security—such as separation of privilege, complete mediation, fail-safe defaults and economy of mechanism—and you've got a major head start. Fail to do so, and you fight a costly, uphill battle. For proof, consider the endless parade of patches needed to batten down our desktops.

IN COMPLEX SYSTEMS WE TRUST

None of the scenarios I mentioned earlier caused serious harm—with the possible (and pungent) exception of the sewage incident. They do illustrate, however, the phenomenal trust we place in complex, software-controlled systems, and how vulnerable we become if those systems are compromised. As software designers, developers and managers, our duty, then, is to create systems that are inherently trustworthy. In fact, our systems should be so resilient that they can continue to provide reliable service even when exposed to malware and denial-of-service attacks. By using resource partitioning, for example, we can contain such attacks and prevent them from consuming the CPU cycles that key apps and services require.

When it comes to building secure, survivable systems, what you start with determines what you end up with. Fortunately, the design principles we need to embrace aren't unproven or obscure, but are embodied in well-known and well-accepted programming practices. The groundwork has already been laid; let the next generation of innovative—and secure—systems begin. ■

Dan Dodge



Guest View

Dan Dodge is CEO of QNX Software Systems, which makes operating systems and tools for embedded development.

Office 2007 Looks Like a Winner

You probably didn't hear: Microsoft has shipped Windows Vista, Office 2007 and the .NET Framework 3.0. That sound you hear is the collective neck-cracking of 10,000 heads turning from their screens and checking what season—or year—it is. The next sound you hear will be a collective inhalation as everyone in Redmond prepares to hold their breath until the MSFT ticker starts to reflect a new generation of cash cows.

I don't presume to guess to what extent the market will reward Microsoft, but surely there will be at least a slight uptick as skeptical investors acknowledge that Microsoft has emerged from a death march.

Of the three components, Office 2007 seems to be the biggest winner. I'm not a huge fan of the new "Ribbon" interface, which seems to me to hide options as much as reveal them.

Just yesterday I was stymied attempting to map an Excel spreadsheet into an XML format; it turned out that I had to open the "Options" dialog in order to turn on the "Developer" Ribbon panel, which in turn gave me access to the XML capabilities. Oh yeah, that's much better than a menu.

But I seem to be in a minority when it comes to the Ribbon and, one interface or the other, Word and Excel work pretty much as they always have and OneNote 2007 is a huge step forward for what was already my favorite new application in a decade. OneNote, which had already made saving your data an implicit task, now makes synchronizing your data between your desktop and

your laptop(s) equally transparent.

The software has also become much more flexible regarding hierarchies: You can now have unlimited notebooks, sections and pages. Whether you're a "filer" or a "pack rat," I can't imagine a programmer not finding value in organizing with OneNote.

Vista has been a rocky road, even for beta testers. With a new display model, drivers have been hard to come by, and "Will I See Glass?" has been quite the game with laptop owners.

The only benefit of Vista that has consistently been talked about from Microsoft is security: improved defensive programming throughout the operating system and a user experience that is more locked down than it has been in the past.

These are commendable but hardly features that will generate a mass-market upgrade frenzy. Meanwhile, lots of corporations will move only slowly toward Vista due to the cost of hardware upgrades. Will it succeed eventually? Sure. But even among the normally eager early adopters of the software development world, I've noticed a marked lack of enthusiasm for making Vista one's primary operating system.

For developers, the most significant release is the .NET Framework 3.0, at the core of which is a set of technologies originally associated with Vista (Windows Presentation, Communication and Workflow Foundations). While the 2.0 version of .NET was language-driven, with the addition of generics and lightweight code genera-

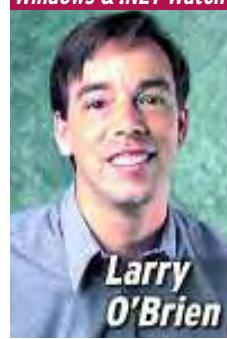
tion, this version is driven by platform changes and should convince some who've thought this whole "managed code thing" was just a temporary distraction. WPF allows XAML and managed code developers to leap-frog what they could do with Win32 (well...Win32 wizards might still have an ace or two up their sleeve). Although I quite like the WPF model and see it catching on for customer-facing applications, many corporate developers will undoubtedly prefer to stick with Windows Forms or ASP.NET and the completed tools that support them.

Another thing worth noting about the .NET Framework is its increasing internal complexity. When one reads about, for instance, the threading and isolation models of the CLR, one sees platform-like decisions migrating up into the realm of managed code. For instance, the CLR appears to be in a position to add fibers to its threading model and perhaps "take over" some of the complex logic associated with managing processes, threads and fibers in a world of many cores; if something like that happens, it's the end of the distinction between the CLR and the Platform SDK.

Oh, and Microsoft shipped the Zune. Apparently, the just-as-expensive, just-as-DRMed, and industrially under-designed would-be-iPod-killer diagnoses Vista as "not a supported Operating System." That sound you hear is the groaning of some developers turning back to their screens. ■

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

Windows & .NET Watch



**Larry
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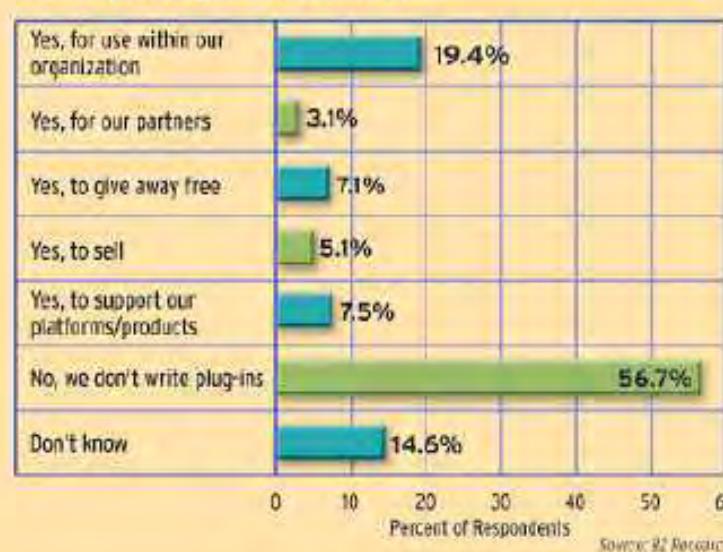
Eclipse Plug-in Extensions

One of the key features of the open-source Eclipse tools framework is that it's extensible—not only by tools providers, but also by Eclipse users and their organizations. The Eclipse Foundation has expended a great deal of effort to evangelize the benefits of building custom plug-ins. But are developers doing so? In a 2006 Eclipse Adoption Study, conducted by BZ Research in November and due for release this month, it turns out that nearly half of all respondents indicated that they are. In fact, when asked if they have written or are planning to write any plug-ins or extensions, 56.7 percent said they have not—implying that 43.3 percent are developing plug-ins, or are considering doing so.

Now, what are they doing with those plug-ins, and who are they creating them for? The results broke down as shown in the chart—note that respondents may have selected more than one option. The most popular destination for Eclipse plug-ins was for internal use, with nearly 1 out of 5 Eclipse users saying that they (or their organization) use custom plug-ins in this way.

BZ Research is a division of BZ Media, publisher of SD Times.

Have you written or are you writing/considering writing any Eclipse plug-ins or extensions?



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Metrics Are Essential

In software development, metrics suffer from a reputation as tools of abuse. A recent post by Joel Spolsky in his famous blog, *Joel on Software*, reinforces this perspective by retelling a Dilbert-like story often trotted out when metrics are discussed.

It concerns a management consultant with no experience in software development processes (as Joel puts it, a "stunningly good-looking, bright, earnest chipmunk with 4.0s in Russian Lit from Harvard") who, after getting project metrics from the company's IT management and comparing them with an industry benchmark, points out that the developers are underperforming based on lines of code written per developer. After an expensive initiative to improve productivity, the developers learn to write more lines of code to do the same work—thereby meeting their new goals. The net result is a costly decrease in productivity to fulfill metrics-defined goals. Ugh!

Everyone can sympathize with developers being held to a nearly meaningless metric. Just because lit majors have abused metrics in the past, however, does not mean that metrics should not be employed. To quote Lord Kelvin, "You cannot manage what you cannot measure." (The actual quo-

tation is much longer and elaborate, yet most sources attribute this shortened version to him.)

My experience with sites that use metrics is that the first time they pull up their data, they have the same revelatory experience developers do when they first run a performance profiler on their code: The issues and difficulties are different from what they expected. This is the first step in a process that enables developers and especially managers to understand their processes. It is the first step to remediation.

Metrics fall into two broad categories: descriptive and prescriptive.

Descriptive metrics are the ones you want: They are objective data points about the status of code or of a project. They include, among other measures, code complexity, defect counts (ranked by defect severity), code coverage, unit tests written, time and cost metrics for defect resolution, etc. Many of these are obvious. Clearly, managers want to know defect counts. And developers should want to know code complexity. (You might ask why. The agile model uses "smells" to identify where code should be refactored. One of the most impor-

tant smells to recognize and fix is code that is overly complex. Complex code is difficult to understand, maintain and debug. Metrics such as cyclomatic complexity objectively measure complexity and automate identification of code that smells. Clearly, some routines such as parsers are inherently complex and don't lend themselves to much refactoring.

However, running complexity measures on code helps identify routines that escaped detection but are in need of cleanup.)

Prescriptive metrics are the source of all trouble. They measure variance from a stated goal. This is where Spolsky's "chipmunk" does his work. By saying, for example, that code coverage must be 80 percent, and that metrics will identify who is not meeting this target, the benefit of metrics is badly undercut. In fact, it breeds the wrong response. To quickly lift their codebase to the required coverage standard, developers might start writing unit tests for getters and setters—an established nonsensical activity—while continuing to write the former number of unit tests for their core work. This activity results in a net loss of productivity (as pointless tests are written) and a deterio-

ration in the metric's value, as the manager is now being misled by the data rather than illuminated. Prescriptive metrics don't work because they encourage the wrong behavior.

This is not to say that metrics cannot be used to identify individual weaknesses and provide coaching opportunities. A coder who consistently turns in far fewer unit tests per KLOC is either working on some unusual code or is remiss in writing tests. A good manager will intelligently figure out (or know beforehand) which it is and then determine whether some remediation would be useful—either tutelage with a more senior developer or an in-person conversation. Used in this manner, metrics help the team, the manager and the developer.

A lot of this remedial work can be removed by publishing the metrics on a dashboard available to the entire team. (Agile precepts suggest that all team members are responsible for the entire project.) Developers will see for themselves where they fit with regard to their peers and then begin to bring up their numbers by themselves.

This self-diagnosis and self-correction is a terrific result of descriptive metrics—and one that validates their intelligent use. ■

Andrew Binstock is the principal analyst at Pacific Data Works. Read his blog at binstock.blogspot.com.



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People are by their very nature social beings. We live in families, join clubs, and bond to form towns, counties, states and nations. We create norms of behavior, set moral standards. We gather at picnics, root for our favorite teams, take classes together, practice religion. In short, we get together.

I mention this because Microsoft recently released Zune, its first music player. It is like Apple's iPod in many ways: It's small, lightweight and can play music or video. But Microsoft's marketing differentiates Zune by claiming it offers a social experience.

Music can be shared through the use of wireless technology built into the Zune player, creating what Microsoft chairman Bill Gates calls "connected entertainment."

This is but the latest in social networking, or social computing. MySpace is arguably the best-known example now, as people of like interests create virtual meeting spaces to share stories, photos, music and video. Google, Yahoo and others also are launching into this space.

In our world of software development, we enable social computing through the use of collaboration tools, which join together developers working in remote locations around the world. Some tools go beyond source-code and issue-list sharing to enable real-time messaging, discussions lists and even video and audio conferencing.

However, the more technology advances in the ways it brings us together, the more it succeeds in keeping us apart.

People are at their most creative

when they're together. One idea sparks another, and suddenly there is a flash of inspiration, created by the combustion of thoughts and suggestions and revisions. The whole group is thus lifted by their collective contributions and accomplishments. In my world, I have found that writers and editors work best when one is looking over the shoulder of the other, striking a phrase here, replacing a word there, and then working through a troublesome passage with the joined vision and energy they bring to the work.

I'm sure this is true about software development as well. I can't believe that a developer sitting in an office in California, with his iPod earpieces in place to shut himself off even more, can be inspired to greatness simply by exchanging instant messages or e-mails with a so-called collaborator across the country.

True, technology has given us the ability to work with people around the world more easily than ever before. But the types of work companies are outsourcing are low-level maintenance and testing projects. The creative stuff—software design and architecture, and the code to turn that vision into a reality—is being kept in-house.

Social networking is a fraud. There's nothing social about it at all. I have a 13-year-old daughter who sits alone in front of her computer for more hours per day than I'd care to admit. It has

become her social lifeline. I'll ask her what her friends are doing, and she'll say, "We're hanging out on MySpace." When I suggest she call them and actually, physically, get together in the same location, you would think by her reaction that I've just asked her to get on a rocket to Mars.

Perhaps I'm just old. Maybe, when my daughter's generation comes of age, they will be so comfortable with the idea of social computing that they will be able to find creative inspiration at the urging of an instant message. Maybe they won't need the energy created from a group of people looking into a computer screen, pointing at things and sharing ideas instantly, clearly, with some humor, or exasperation, or brilliance that's so hard to pick up on via the written word.

I think the Knights of Columbus, the Jewish Community Centers and the Kiwanis Clubs will be the real beneficiaries of "social networking." The same is true of the company lunchroom. That's where people will fill their primal need to actually get together. ■

David Rubinstein is editor-in-chief of SD Times.

Industry Watch



David Rubinstein



BUSINESS BRIEFS

Business intelligence software company **LogiXML** has begun an expansion program that adds staff, broadens the scope of sales and marketing efforts and increases the size of its McLean, Va., headquarters. The growth and expansion program will support the high volume of new sales projected by the introduction of LogiXML's new Logi 8 Web-based business intelligence platform in January 2007, according to founder and CEO Arman Eshraghi.

EARNINGS: Application life-cycle management software company **MKS** announced second-quarter fiscal 2007 revenue of US\$11.5 million that held steady from the same period a year earlier. The company posted a net loss of \$700,000. In its financial report for the quarter, MKS acknowledged that the complexity of software deployments, and the extended functionality MKS is offering through its ALM solutions, have forced the company to adjust its services model to better serve its customers. In its guidance, MKS reported it believes its fiscal 2007 revenue will be in the range of \$52 million to \$55 million, which is \$5 million lower than the guidance offered at the end of the fiscal first quarter . . . **CA**, the company formerly known as Computer Associates,

reported revenue of US\$996 million for its second fiscal quarter 2007, a 5 percent increase over the \$950 million reported for the same quarter last year. Net income increased 15 percent, to \$53 million, while GAAP cash flow fell 98 percent, to \$6 million from \$299 million in the previous year's second quarter. Total product and services bookings were \$690 million, according to the statement, a decline of 10 percent from the same year-ago quarter, when \$765 million was reported. Also, the company reported severance costs of \$39 million relating to 750 positions that were eliminated. All told, the company expected to reduce its workforce by 1,400 jobs by the end of fiscal 2007 . . . SOA platform provider **TenFold** reported third-quarter 2006 revenue of US\$1.1 million and an operating loss of \$2.1 million. For the year, TenFold has posted a net loss of \$5.6 million. The company said it is hiring consultants to meet an increased demand for its services. TenFold chairman, president and CEO Robert W. Felton said, "We are pleased that our strategy of growing TenFold brick by brick is showing progress.... We recognize however, that given our limited cash resources we need to build on this progress in the near term to be able to sustain TenFold." ■

EVENTS CALENDAR

Macworld Conference & Expo	Jan. 8-12
San Francisco	
IDG WORLD EXPO	
www.macworldexpo.com/live/20	
RSA Conference	Feb. 5-9
San Francisco	
RSA SECURITY	
www.rsaconference.com/2007/us	
SCALE 5x (Southern California Linux Expo)	Feb. 10-11
Los Angeles	
SOCAL LINUX USER GROUPS	
www.socallinuxexpo.org/scale5x	
SHARE User Events	Feb. 11-16
Tampa, Fla.	
SHARE	
www.share.org	
LinuxWorld OpenSolutions Summit	Feb. 14-15
New York	
IDG WORLD EXPO	
www.linuxworldexpo.com/live/14	
EclipseCon	March 5-8
Santa Clara	
ECLIPSE FOUNDATION	
www.eclipsecon.org/2007	
Game Developers Conference	March 5-9
San Francisco	
CMP MEDIA	
www.gdconf.com	
Developer Relations Conference	March 12-13
San Francisco	
EVANS DATA	
www.evansdata.com/drc	
BrainShare	March 18-23
Salt Lake City	
NOVELL	
www.novell.com/brainshare	
SD West	March 19-23
Santa Clara	
CMP MEDIA	
www.sdexpo.com	
VSLive	March 25-29
San Francisco	
FAWCETTE TECHNICAL PUBLICATIONS	
www.ftponline.com/conferences/vslive/2007/sf	
Emerging Technology Conference	March 26-29
Burlingame, Calif.	
O'REILLY MEDIA	
conferences.oreillynet.com/et2007	
Embedded Systems Conference	April 1-5
San Jose	
CMP MEDIA	
www.embedded.com/esc/sv	
Software Security Summit	April 16-17
San Mateo, Calif.	
BZ MEDIA	
www.S-3con.com	
Software Test & Performance Conference	April 17-19
San Mateo, Calif.	
BZ MEDIA	
www.stpcon.com	

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar. Information is subject to change. Send news about upcoming events to events@bzmedia.com.

IBM

INFRASTRUCTURE LOG

_DAY 15: This project is out of control. The development team's trying to write apps supporting a service oriented architecture...but it's taking FOREVER!

_DAY 16: Gil has resorted to giving the team coffee IVs. Now they're on java while using JAVA. Oh, the irony.

_DAY 18: I've found a better way: IBM Rational. It's a modular software development platform based on Eclipse that helps the team model, assemble, deploy and manage SOA projects. The whole process is simpler, faster and all our apps are flexible and reusable. :)

_The team says it's nice to taste coffee again, but drinking it is sooo inefficient!



Rational.

Download the IBM Software Architect Kit at
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